REPORT RESUMES

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CARS ON CAMPUS. A REPORT ON CIRCULATION AND PARKING POLICIES FOR THE UNIVERSITY OF WISCONSIN CAMPUS, IN MADISON.

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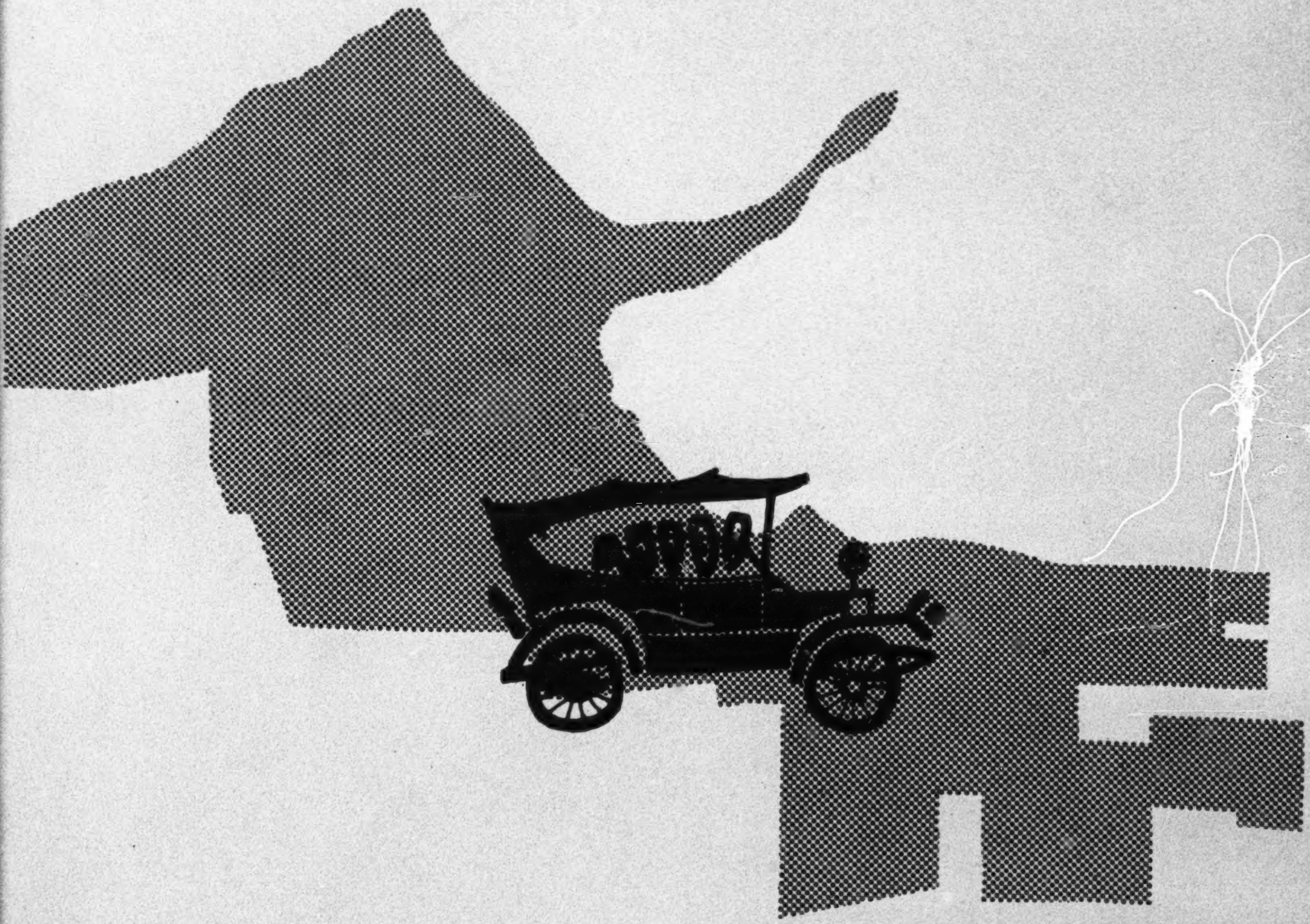
THIS REPORT IS AN INVESTIGATION INTO THE PROBLEMS ARISING FROM INCREASED VEHICULAR USAGE ON THE UNIVERSITY OF WISCONSIN, MADISON CAMPUS, AND SUBSEQUENT RECOMMENDATIONS FOR SOLUTIONS OF THESE PROBLEMS. POLICY STATEMENTS ARE DIRECTED TOWARD SUCH AREAS AS--(1) PEDESTRIAN CIRCULATION, (2) BICYCLE CIRCULATION, (3) VEHICULAR CIRCULATION, (4) PARKING CONTROL, (5) BUS TRANSPORTATION, (6) SERVICE VEHICLES, (7) PARKING FACILITIES FOR FACULTY AND STAFF, (8) VISITOR PARKING, AND (9) STUDENT PARKING. DATA SUCH AS PROJECTED ENROLLMENT, STUDENT VEHICLE REGISTRATION, FACULTY PARKING REQUIREMENTS AND NUMBER OF VISITORS REQUIRING PARKING SPACE ARE UTILIZED IN THE STUDY. GRAPHICS ARE USED TO REPRESENT TRAFFIC PATTERNS, CIRCULATION CONFLICTS, TRAFFIC CONTROL, AND PARKING POLICIES. IMPLEMENTATION PROCEDURES FOR FINANCING AND ADMINISTRATION OF PARKING FACILITIES ARE SUGGESTED. (BH)

CARS ON CAMPUS



THE UNIVERSITY OF WISCONSIN · MADISON

"CARS ON CAMPUS"

A Report on Circulation and Parking Policies
for the
University of Wisconsin Campus, in Madison

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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TABLE OF CONTENTS

I. Preface

II. Introduction 1

III. The Problem and the Recommended Approach to its Solution 3

IV. Circulation 9

  1. Pedestrian Circulation 9
  2. Bicycle Circulation 12
  3. Vehicular Circulation 14
  4. Bus Transportation 21
  5. Special Circulation Problems 24

V. Parking 27

  1. Introduction 27
  2. Faculty and Staff Parking 29
  3. Visitor Parking 39
  4. Business and Service Vehicle Parking 45
  5. Student Parking 46

VI. Plan Maps Following Page 61

  1. Areas of Pedestrian-Vehicular Conflict
  2. Pedestrian Circulation Plan
  3. Traffic Control Plan
  4. Parking Policies Plan

VII. The Implementation Program 62

PREFACE

In July, 1961, the Campus Planning Committee appointed a subcommittee consisting of the Institutional Planner, Chairman, the Director of Physical Plant and the Director of Protection and Security to investigate the problems arising from increased automobile ownership and automobile use by the student body on the Madison Campus, and to recommend solutions to these problems.

In its initial two meetings the subcommittee unanimously felt that the problem of student cars was an integral part of the total problem of vehicular and pedestrian movement on the Campus and its vicinity and that no intelligent solutions could be found to any individual problem without a comprehensive analysis and plan incorporating all elements.

In view of the complexity of such an analysis the chairman of the subcommittee decided that the University's planning staff would undertake a study and prepare a staff report to the subcommittee before futher meetings were held. It was felt that the subcommittee would then be in a position to continue its task and report back to the parent committee.

Upon completion of the staff report, the subcommittee reviewed its recommendations and solicited additional comments from those members of the University's staff who would be most affected by the proposals contained in the report. Consequently, the report reflects the thinking of many groups and individuals. However, the subcommittee on Cars on Campus accepts full responsibility for the report and its recommendations.

INTRODUCTION

The Sketch Plan for the development of the University's Madison Campus, adopted in March of 1959, established general policies regarding circulation and parking. These are:

> "The guiding principles in the development of the circulation pattern on the campus and its vicinity should be the elimination of pedestrian and vehicular conflict, the elimination of excess vehicular travel on campus, and the concentration of parking to peripheral areas, and a restriction of intra-city through traffic, as much as possible, to University Avenue, Regent Street, Park Street and Breese Terrace, as indicated on the Sketch Plan Study Map 6, DEVELOPMENT PLAN, October 1958."
>
> "A system of both formal and informal green spaces, pedestrian greenways and wooded areas in addition to athletic fields, should be provided in the general manner shown on the Sketch Plan Study Map 6, DEVELOPMENT PLAN, October 1958."

These policies were based on certain growth assumptions, planning objectives and principles. The most important of these, with respect to circulation and parking were:

> "To insure that the University does not spread unnecessarily; a University should express itself as an entity by means of a coordinated and coherent layout which results in efficiency of movement and use of space."
>
> "To use the principle of functional distribution of activities, i.e., related functions of the University should be grouped together in the most efficient manner."
>
> "To reserve sites within the development area close to existing

groups of buildings to allow local expansion of already established departments and functional groupings."

"To develop density standards of use for various areas of the campus, densities determined by frequency and intensity of use per facility."

"To minimize conflict between pedestrian and vehicular circulation, to eliminate excess vehicular travel on the campus and to develop a separated protected pedestrian system of traffic."

"To develop adequate parking facilities so located as to be consistent with a safe and effective circulation system."

It is from these general statements of physical growth objectives, established early in the process of planning for the Madison Campus, that the more detailed development policies, plans and implementation programs emerge in a logical manner.

Although the Sketch Plan has been the basic source of reference for development decisions since its adoption, the planning staff has been involved in a continuous process of fact finding and special studies leading towards the formulation of a long range development plan. The findings and recommendations of this report should be considered the first document in a series of refined studies and plans. Other reports will deal with land use and density, campus environment, housing, recreation, etc.

THE PROBLEM AND THE RECOMMENDED APPROACH TO ITS SOLUTION

The March 1, 1959, edition of the New York Times Book Review carried a review of Wilfred Owen's book Cities in the Motor Age. The review was entitled, "Can We Be Motorized, Urbanized and Yet Civilized?" Neither Owen nor the reviewer (John Keats) could answer the question with any certainty.[1] However, the question points to one of the central issues confronting contemporary society; what role shall the automobile play in an urban society and what priority shall we assign to the facilities required to accommodate moving and standing motor vehicles in planning our total urban environment?

A large university campus, such as the University of Wisconsin campus at Madison, is an urban environment, a city in its own right, although it is an integral part of a larger urban center. It is composed of facilities housing a great variety of activities: instructional, research, housing, recreation, entertainment and social activities are all a part of campus life. The University city also has systems of streets and utilities, a police force and maintenance crews, and an administrative structure which allows for the expression of individual opinion as well as group activity in the decision making progress.

Thus the campus reflects, in its scope of activities and in its systems structure, the mother city of which it is a part. It is, therefore, only too logical that university cities have shown the same inability to cope with their traffic problems as have cities in general. Wilbur C. Smith states in his study Access and Parking for Institutions:[2]

> "The field of access and terminal facilities at institutions is one in which little study and research has been done. This may be due to the fact that the problem is a relatively new one for most institutions, and some smaller institutions have no problems. Another reason is perhaps the attitude of governing bodies of institutions. Some have recognized that the transportation of employees and students is a matter of critical concern; some have winked at the matter; still other have closed both eyes, declaring that the car has no place on the premises and hoping in time the problem will solve itself."

Another recent study [3] states:

> "Increased ownership and use of automobiles since the end of World War II have created parking problems in almost every city in the United States. Colleges and universities, particularly in medium-to-large cities, have shared these problems.
>
> The size of student bodies, faculties, and non-teaching staffs has increased rapidly in the past fifteen years. The automobile has had even more impact on the university campus, however, than on the central business districts of cities.
>
> Whereas use of automobiles by university faculty and staff has probably grown about in the same proportion as with other types of employed persons, student reliance on the automobile has swept far beyond the predictions of pre-war campus planners. On many campuses, more than one-half of the students now own or have the use of automobiles. This fact can be attributed in part to the growing number of students taking post-graduate work and in part to the large number of married students.

> The most important factors, however, are probably those relating to changing social and economic conditions. The automobile is no longer considered a luxury by many students, but a necessary means of transportation. Many used the auto for commuting trips to high school even before entering college.
>
> While each university has a character of its own, many problems posed by the automobile are surprisingly similar from campus to campus. Planners are disturbed over conversion of green lawns to parking lots as well as by the general clutter caused on campus roadways. Neighbors are agitated over university-associated cars parking in front of their homes. Faculty and staff sometimes look upon availability of convenient parking space as a fringe benefit in considering a job offer. Students object to parking fees but persist in driving to class. An important problem is to accommodate the cars of visiting lecturers and industrial clients of the schools' research facilities. Another growing activity which attracts large numbers of car-driving visitors is the sponsorship of two-day to two-week seminars on a great variety of subjects."

Despite geographic location, topographic features, and elongated shape, circulation and parking problems at the University of Wisconsin's Madison Campus have not been too severe in the past. This can be attributed to the following:

1. With the exception of the College of Engineering and the Camp Randall athletic facilities, all university activities were concentrated north of University Avenue, which is the city's main thouroughfare to the west;

2. About 80% of the student body resided within walking distance from the instructional core with heavy concentrations of student residences in the Langdon Street area to the east and the Lakeshore Dormitories to the west, thereby eliminating the heavy north-south pedestrian movement which would have had to cross University Avenue;

3. A significant number of faculty and staff are living in the residential areas surrounding the campus;

4. All bus lines of the Madison Bus Company run tangential to the main campus;

5. Two public, city operated parking lots are in convenient locations near the heaviest visitor traffic generators of the University, the Memorial Union, the Memorial Library, the State Historical Society Library and Museum and the Wisconsin Center Building;

6. Modest on-street parking restrictions on streets surrounding the campus;

7. The foresight to establish, in 1956, a large peripheral parking facility with shuttle bus service to the campus and the success of this experimental venture.

However, the situation has been aggrevated to a great extent in the past two years. The reasons are:

1. A more rapid growth in enrollments than projected;

2. A concomitant increase in faculty and staff;

3. The expansion of the campus south of University Avenue increasing the amount of north-south traffic, both vehicular and pedestrian; (The opening of new residence halls in the Fall of 1963 and subsequent years, as well as the construction of new instructional facilities, will greatly increase pedestrian and vehicular conflict on Johnson Street and University Avenue.)

4. The prolonged periods of time during which University Avenue carries a maximum traffic flow causing drivers to seek alternative routes (particularly Observatory Drive where rush hour traffic volumes have increased over 80% from August 1950 to August 1958);

5. The loss of near-in private housing due to campus expansion forcing students to seek housing beyond walking distance;

6. The unavailability of suitable faculty and staff housing in the vicinity of the campus resulting in a more scattered housing pattern and an increase in pressure for faculty and staff parking;

7. A general rise in car ownership and car usage;

8. The delay in construction of major public traffic improvements in the area, e.g. University Avenue development and the Lake Street parking ramp;

9. The elimination of parking facilities on the central campus due to new building construction;

10. The recent increases in the use of bicycles and motor scooters as a means of campus transportation;

11. The increase in business service vehicles due to the increased use of new, often complicated equipment, requiring continuous service and maintenance by expert technicians;

12. Greatly expanded research activities generating increases in visitor traffic of varying duration.

Because of the above factors it is mandatory that the University take a new look at the total problem of traffic and parking on the Madison Campus and that policies be established upon which to base the control and regulation of traffic on the campus. These policies should be related to a planning philosophy reflecting the University's role as an institution of higher learning. The University should, therefore, in attempting to solve its circulation problems, recreate an urban environment in which the motor vehicle is placed in a proper role as a constructive machine serving man.

POLICY NO. 1

THE UNIVERSITY RECOGNIZES THE IMPORTANCE OF THE MOTOR VEHICLE WHICH IS PREDOMINANT IN THE SYSTEMS OF MOVING PEOPLE AND GOODS IN A CONTEMPORARY SOCIETY. HOWEVER, THE MOTOR VEHICLE IS ONLY ONE OF SEVERAL MEANS OF TRANSPORTATION. IN THE SELECTION OF MODES OF TRANSPORTATION, AND IN ESTABLISHING PRIORITIES AMONGST THEM AS WELL AS IN CONSIDERING OTHER PROBLEMS OF CAMPUS DEVELOPMENT, THE UNIVERSITY SHOULD PLACE THE HIGHEST PRIORITY ON EXPRESSING IN ITS CAMPUS ENVIRONMENT ITS SINGULAR ROLE AS AN INSTITUTION OF HIGHER LEARNING. POLICIES AND PLANS SHOULD REFLECT THIS ROLE AND THE ENVIRONMENT OF THE CAMPUS SHOULD BECOME PART OF A TOTAL EDUCATIONAL EXPERIENCE. SERVICE TO STUDENTS, CONVENIENCE OF FACULTY AND VISITORS, AND PUBLIC RELATIONS MUST ALSO BE CONSIDERED. THE UNIVERSITY'S POLICIES WITH RESPECT TO CIRCULATION AND USE OF MOTOR VEHICLES SHOULD BE DESIGNED ACCORDINGLY.

The following sections of this report are written in the spirit of the above recommendations.

CIRCULATION

1. Pedestrian Circulation

In the past, the main mode of circulation on the campus has been on foot. Despite notions to the contrary, walking is still the cheapest and most efficient way of moving large numbers of people over short distances in a situation where the origins and destinations form a random pattern of criss-crossing desire lines. Although there are certain distinct movement corridors on the campus, these are pronounced only during short periods of the day. In addition, these peaks do not occur uniformly during each day of the week and they are also subject to seasonal variations. Because of this random traffic pattern[4], and short peaks of usage, it is assumed that the basic mode of circulation on the campus, particularily in its high density core - Lower Campus, Bascom Hall, Medical Center and Observatory Hill Areas - will be on foot. All other modes of transportation, and the facilities systems accommodating them, must therefore be considered and planned in distinct relationship to the pedestrian walkway system.

POLICY NO. 2

> THE BASIC MODE OF MOVING PEOPLE FROM ONE DESTINATION TO ANOTHER ON THE MADISON CAMPUS, EXCEPT IN OUTLYING AREAS, IS AND SHOULD REMAIN BY PEDESTRIAN WALKWAYS. ALL OTHER MODES OF ON-CAMPUS CIRCULATION SHALL, THEREFORE, BE PLANNED IN A COMPLEMENTARY RELATIONSHIP TO THE PEDESTRIAN WALKWAY SYSTEM.

At present, the main points of pedestrian-vehicular traffic conflict occur at Park Street at its intersections with State Street and Langdon Street. Additional points of conflict exist at University Avenue, particularly at the non-signalized intersections at Brooks Street, Charter Street and in front of the Mechanical Engineering Building. On the Central Campus serious points of conflict exist at Observatory Drive between Bascom Hall and the Charter Street intersection, and at the intersection of Charter Street and Linden Drive (Map 1).

With the expansion of the campus south of University Avenue, north-south pedestrian traffic crossing University Avenue will increase greatly. There has also been a continuing increase in vehicular traffic volumes on Park Street due to Lower Campus development which has further aggravated the situation. A new point of conflict will develop at the intersection of Murray Street and University Avenue, where students from the Southeast Dormintory Area will seek to cross the Avenue on their way to and from the Memorial Library, the Union, and other facilities on both the Lower Campus and the Eastern part of the Central Campus.

The proposed plan for the improvement of University Avenue will only slightly improve the problem of pedestrians crossing the Avenue. One-way traffic on both University Avenue and Johnson Street and additional traffic signals at Babcock Drive, Lorch Street and Charter Street will provide breaks in the flow of traffic to allow some pedestrian movement. However, the best answer to the solution of the pedestrian-vehicular conflict is the construction of grade separated pedestrian crossings.

Fortunately, the topography on the Central Campus is rolling and there are many places where substantial grade differentials exist along the right-of-way of both University Avenue and Park Street. In the design of pedestrian crossings advantage can be taken of these features and the need for stairs (the main obstacle in the efficient use of elevated pedestrian crossings) can be eliminated on one side of the overpass. Also, there are few University buildings either on the east side of Park Street or on the South side of University Avenue, This adds to the possibilities of developing a truly effective elevated pedestrian crossing system. Several crossings can be tied in with the design of new buildings, thus leading to an upper level pedestrian walkway system in parts of the Lower Campus Area and in the expansion area south of University Avenue.

The pedestrian-vehicular conflict areas on the central campus will, in part, be solved by the recommendations which are made in conjunction with vehicular traffic. Also, studies should be made investigating the possibility of constructing pedestrian-vehicular grade separations on Bascom Hill, particularly where student-bus conflicts occur. These conflicts are most pronounced in the vicinity of the Social Science Building, the School of Commerce Building and Bascom Hall. Map 2 shows the tentative designation of major pedestrian walkways, both at grade and elevated, as well as the location of proposed pedestrian bridges and signal controlled crossings. In order to implement the plan, the following policies should be established:

POLICY NO. 3

IN ORDER TO FULFILL ITS EDUCATIONAL MANDATE THE UNIVERSITY MUST EXPAND INTO AREAS OF EXISTING TRAFFIC OF CITY WIDE IMPORTANCE. AS THE RELOCATION OF THESE TRAFFIC ARTERIES IS DIFFICULT BECAUSE OF THE GEOGRAPHIC, STRUCTURAL, AND FUNCTIONAL CONFIGURATIONS OF THE MADISON URBAN AREA AND THE UNIVERSITY'S LOCATION WITHIN THESE CONFIGURATIONS, A SEPARATION OF PEDESTRIAN AND VEHICULAR TRAFFIC AT THE MAIN POINTS OF CONFLICT IS RECOMMENDED. TO ASSURE SAFE, SPEEDY AND CONVENIENT MOVEMENT FOR ITS STUDENTS AND STAFF, THE UNIVERSITY MUST PLACE A HIGH PRIORITY ON THE CONSTRUCTION OF PEDESTRIAN CROSSINGS IN LOCATIONS SHOWN ON THE PEDESTRIAN CIRCULATION PLAN. (Map 2)

POLICY NO. 4

IT SHALL BE THE UNIVERSITY'S POLICY TO CONSIDER THE CENTRAL CAMPUS AN AREA DOMINATED BY FOOT TRAFFIC (Zone 1, Map 4). ALL OTHER MODES OF CIRCULATION IN THAT AREA SHALL BE TREATED SUBORDINATE THERETO.

POLICY NO. 5

IN THE ALLOCATION OF FUNDS FOR IMPROVING PEDESTRIAN WALKWAYS AND CIRCULATION AREAS FIRST PRIORITY SHALL BE GIVEN TO THE IMPROVEMENT OF THE MAJOR WALKWAYS SYSTEM AS SHOWN ON THE PEDESTRIAN CIRCULATION PLAN (Map 2).

POLICY NO. 6

BECAUSE IT IS UNLIKELY THAT THE SOUTH CAMPUS AREA (THE AREA BETWEEN UNIVERSITY AVENUE, RANDALL AVENUE, DAYTON STREET, AND PARK STREET) CAN BE DEVELOPED AS A SUPER BLOCK, A SYSTEM OF WALKWAYS, TERRACES, AND ROADWAYS WHICH ALLOW FOR VERTICAL SEPARATION OF FOOT AND MOTOR TRAFFIC SHOULD BE DEVELOPED, AND STUDIES TO ACCOMPLISH THIS SHOULD BE UNDERTAKEN AT ONCE.

2. Bicycle Circulation

In recent years a renewed interest in the use of bicycles has been evident on campus. More and more bicycles are mingling with automotive traffic on city and campus streets, and often conflicts with pedestrians result as bicycle riders use sidewalks and walkways for bicycle paths.

It is not the increase in the use of bicycles which is presently causing concern, it is the manner in which they are used, and the attitude of the rider which creates this concern. Moving bicycles should be treated the same as any other moving vehicle and be confined to the same traffic lanes. A bicycle rider should obey the traffic rules and regulations which govern the driving of passenger automobiles, and in addition, they should be registered and carry a license plate for identification and control purposes.

The above suggestions are unquestionably accepted and implemented in countries such as Denmark and Holland, where the use of bicycles is commonplace and where long traditions of this mode of transportation exist. However, it must be recognized that under American traffic conditions, bicycle riding on major traffic arteries can be hazardous. It is not only the bicycle rider who is causing problems because of nonchalance concerning the rules of traffic control, but also the motorist who must often be blamed because of an unwillingness to yield room for bicycles on his sacred territory. However, even in the countries with a "high bicycle culture" it has been recognized that motor vehicles and bicycles are incompatible companions under heavy traffic conditions. Standards have, therefore, been developed which establish feasible cut-off points based on traffic volumes, when these volumes surpass the designated limit, it is necessary to construct separate bicycle lanes.

Another area of difficulty deals with the parking of bicycles. Bicycles have begun to clutter lawns and open spaces between buildings because of a lack of suitable parking areas.

A two-fold approach to change this attitude is required. One is the establishment of more rigid rules and regulations than now exist governing the use and parking of bicycles and the enforcement of such regulations. The other is primarily a matter of education. With respect to the first area, the Division of Physical Plant is in the process of recommending revised administrative regulations to be enforced by campus police. Also, a program for the construction of bicycle parking areas is underway. Both will help to solve the problem. In the area of rider education, attempts should be made to distribute clear and concise information about the use of bicycles on campus, to engage the active participation of student government and other student organizations and to employ the services of

campus mass media such as the Daily Cardinal, WHA-TV, etc., to carry pertinent material about the proper traffic behavior of bicycle riders.

POLICY NO. 7

DESPITE ADVERSE CLIMATIC AND TOPOGRAPHIC CONDITIONS, BICYCLE RIDING IS A MEANS OF TRANSPORTATION TO AND FROM THE CAMPUS. THE USE OF THE BICYCLE SHALL, HOWEVER, BE CONFINED TO VEHICULAR ROADWAYS AND BICYCLE PATHS SPECIFICALLY DESIGNATED FOR THAT PURPOSE. EXCEPT UNDER SPECIAL PERMIT, BICYCLES SHALL NOT BE ALLOWED TO ENTER THAT AREA OF THE CAMPUS WHICH IS CONTROLLED BY THE PROPOSED GATE SYSTEM. RESPONSIBILITY FOR SUPERVISION AND CONTROL SHALL REST WITH THE DIRECTOR OF PHYSICAL PLANT.

POLICY NO. 8

THE UNIVERSITY WILL PROVIDE A SYSTEM OF BICYCLE PARKING AREAS IN LOCATIONS APPROVED BY C.P.C. THIS SYSTEM SHALL BE RELATED TO VEHICULAR ROADS, BICYCLE PATHS, AND THE PROPOSED GATE SYSTEM.

3. Vehicular Circulation

As seen from Table I, vehicular circulation on the main campus has been increasing at a rate far greater than traffic on the two main arteries bounding the campus, e.g., North Park Street and University Avenue. This increase on the campus has taken place despite the loss of parking facilities on the central campus decreasing its traffic generation capacity, despite a more restrictive issuance of parking permits for multiple areas, despite a prohibition in the use of cars by students during weekday working hours, and despite convenient and frequent bus service between the eastern and western parts of the campus.

There is, however, a simple explanation clearly evident from rush hour traffic counts. The east-west campus route has become a convenient escape route for city traffic trying to avoid University Avenue during the congested rush hours.

The Planning Section has been most concerned about this fact which represents a trend contrary to the University policy as stated in the Sketch Plan. Several studies have been made to develop a circulation system which would discourage through traffic. These include a system of alternating pairs of one-way streets, a system of pedestrian actuated traffic signals at intersections and points of heavy pedestrian cross-movement, and a system of four way stops at all intersections as well as mandatory stops at pedestrian crossings. Unfortunately none of these systems alone or in combinations will provide sufficient relief for achieving the objective of a "pedestrian dominated" central campus as stated in Policy No. 2. The only effective way to achieve this objective and to eliminate excessive vehicular traffic from the central campus is to control access at all points of entry.

Although there are several ways which entry can be controlled, the most feasible is the installation of police supervised gates.

TABLE I

AVERAGE DAILY TRAFFIC VOLUMES
AT SELECTED LOCATIONS 1950-1961

Location	Number of Vehicles					% Change	
	1950	1956	1958	1960	1961	1950-58	1958-61
1. University Avenue (Between Park St. & Brooks Street)	21500[1]	24465	24870	25339	21873	+ 15%	- 12%
2. University Avenue (Between Babcock Dr. & Breese Terrace)	n.a.	19807	24568	23647	21971	n.a.	- 11%
3. North Park Street (Between University Avenue & State St.)	10000	11300	10719	12395	11382	+ 7%	+ 6%
4. Observatory Drive (At Journalism Hall)	2948[1]	n.a.	5406[2]	n.a.	6320[2]	+ 83%	+ 17%

Sources:

1/ State Highway Commission Count (requested by University)

2/ Planning Section Counts, U. W. Department of Planning & Construction

All other data were supplied by the Traffic Engineering Department, City of Madison.

n.a. - not available

In order to reduce the number of points of entry to an absolute minimum, this system should be combined with a system of one way exit roads.

Map 3 shows a proposal for the control system discussed above. The total number of access points to the central campus has been reduced to three, located in a manner which allows for the convenient entry of authorized vehicles. These are service and maintenance vehicles, campus buses, holders of parking permits to areas inside the closed area, taxicabs, emergency vehicles, and other necessary vehicles. As can be seen from the map, the control gates are located so as to permit an easy turn around for vehicles which will not be admitted.

The advantages of the proposed gate system are:

1. Complete control of access to the central campus;
2. Complete elimination of through traffic from the central campus;
3. Flexibility in regard to the hours when control is desired; (For example, it might be possible that control of access would be limited to the morning and afternoon rush hours only, or to the hours when the greatest number of students are concentrated on the central campus.)

POLICY NO. 9

TO CREATE A SAFE PEDESTRIAN CIRCULATION PATTERN ON THE CENTRAL CAMPUS AND TO ELIMINATE EXCESS VEHICULAR TRAFFIC, PARTICULARLY THROUGH TRAFFIC USING CAMPUS ROADS, ACCESS TO THE CENTRAL CAMPUS SHALL BE CONTROLLED AT TIMES TO BE SPECIFIED BY THE DIVISION OF PHYSICAL PLANT IN ACCORDANCE WITH POLICIES APPROVED BY THE PRESIDENT. THE CONTROL OF ACCESS SHALL BE AT POINTS INDICATED ON THE TRAFFIC CONTROL PLAN (Map 3). TO REDUCE THE NUMBER OF CONTROL POINTS, CERTAIN CAMPUS ROADS SHALL BE DESIGNATED FOR ONE WAY TRAFFIC ONLY AS SHOWN ON THE PLAN MAP. ENTRY TO AREAS INSIDE THE CONTROL AREA SHALL BE GRANTED TO THE FOLLOWING VEHICLES: EMERGENCY VEHICLES, SERVICE VEHICLES, MAINTENANCE AND DELIVERY VEHICLES, CAMPUS BUSES, TAXICABS, VEHICLES CARRYING OFFICIAL VISITORS, PARKING PERMIT VEHICLES, AND OTHER VEHICLES DULY AUTHORIZED TO ENTER THE CENTRAL CAMPUS.

NOTE: THIS DOES NOT MEAN THAT A PARKING RAMP CANNOT BE CONSTRUCTED AT 600 NORTH PARK.

In addition, roads for motor traffic must be improved. These improvements can be divided into two groups: those to roads which are primarily of citywide importance; and secondly, those to roads which serve the University's internal circulation system.

In the first category there are three major arteries: University Avenue, Regent Street and North Park Street. The city has prepared plans for improving all three of these streets. The plans for University Avenue are already beyond the preliminary design stage and a tentative construction schedule has bean prepared contemplating completion of the project by the end of this decade. It must be stressed that the projections upon which this improvement is based are extended only until 1980, or less than twenty years into the future. With the usual unavoidable delays in implementation, the projected useful life span of this project will be reduced to a mere 10 years in the area of highest traffic demand, e.g. between Breese Terrace and Bassett Street.

From the inception of planning for this facility, the University felt that the design in the area of highest capactiy requirements would result only in a temporary improvement and that another solution should be sought for the long range future. One possible solution is the construction of a depressed four lane expressway along the University Avenue right-of-way. At the University's insistence such a plan was prepared by the city's traffic consultants who in their final report stated: "At some point in the future, when the University of Wisconsin achieves its expansion ambitions in the corridor east of Randall Street, the planning and construction of the depressed expressway, mentioned earlier in this report, might be undertaken." [5]

Because of the importance of getting improvements started along the Avenue, the University has endorsed the city's plans in principle. [6] Beaause of the pronouncements made by the city concerning timing of the various stages of the plan, [7] it is recommended that the endorsement be changed to read as follows:

POLICY NO. 10

THE UNIVERSITY RECOGNIZES IN FULL THE VITAL IMPORTANCE OF UNIVERSITY AVENUE TO THE UNIVERSITY AND ALSO IN THE CITY'S ARTERIAL STREET SYSTEM AND DECLARES AS A MATTER OF POLICY ITS INTENT TO COOPERATE IN THE DEVELOPMENT OF THIS ARTERY. THE UNIVERSITY THEREFORE APPROVES THE FIRST STAGES OF THE PLAN AS OUTLINED BY THE DIRECTOR OF PUBLIC WORKS IN HIS LETTER OF JANUARY 24, 1963, TO THE MADISON COMMON COUNCIL FOR THE IMMEDIATE DEVELOPMENT OF UNIVERSITY AVENUE INCLUDING THE CONNECTION FROM UNIVERSITY AVENUE TO JOHNSON STREET. IT IS OPPOSED TO THE DEVELOPMENT OF HIGH VOLUME SURFACE LEVEL TRAFFIC ARTERIES THROUGH THE UNIVERSITY CAMPUS. THEREFORE, IN VIEW OF THE CONSTRUCTION SCHEDULE, THE MORE RAPID INCREASE IN CONSTRUCTION SOUTH OF UNIVERSITY AVENUE AND IN ENROLLMENT THAN ANTICIPATED, THE UNIVERSITY REQUESTS A NEW STUDY IMMEDIATELY OF THE AREA RELATED TO THE CAMPUS TO DEVELOP A LONG-RANGE SOLUTION TO THIS TRAFFIC PROBLEM.

The University has also endorsed the design proposed for the Regent Street improvement. Here the city has, by ordinance, established the right-of-way for a second roadway to be constructed along College Court. The plans for Park Street, between Regent Street and University Avenue, are still quite tentative and no firm right-of-way line has been established. In order to facilitate planning in that area, it is highly desirable that more detailed studies be made for this improvement. These could be done in conjunction with the contemplated General Neighborhood Renewal Plan.program. If this program does not materialize, the city should be asked to prepare a preliminary plan and establish, by ordinance, the proposed right-of-way line.

POLICY NO. 11

THE UNIVERSITY IS MOST INTERESTED IN A DECISION AS SOON AS POSSIBLE ON THE FUTURE ALIGNMENT OF PARK STREET AND RECOMMENDS THAT THE CITY SHOULD ESTABLISH BY ORDINANCE THE RIGHT-OF-WAY FOR FUTURE PARK STREET IMPROVEMENTS BETWEEN REGENT STREET AND UNIVERSITY AVENUE.

Other streets of importance to the University are:

1. Dayton Street between Bassett Street and Randall Avenue. The University Avenue improvement plan is based on a reorganization of traffic on Dayton Street to make it a two-way street accommodating up to 5,000 vehicles daily by 1980. The University's planning in the Dayton Street area is based on this recommandation. The city's programs do not, at present, include any mention of this improvement. The University should, therefore, urge the city to include the Dayton Street improvements in its construction schedule. At least funds should be allocated for modification of traffic control devices for a two-way operation. This operation should begin at the time initial impoovements are made on University Avenue and Johnson Street.

2. Charter Street from Regent Street to Observatory Drive. In conjunction with the development of the Service Center Area and extension of the campus bus service to the peripheral parking areas along College Court, it is important that good access be provided between the Central Campus and the expansion area. The logical point for such service is along Charter Street, which is the only continuous north-south artery. It is recommended that the University request the city to once again utilize Charter Street for two-way traffic, signalize its intersections with Johnson Street and University Avenue and realign this latter intersection according to the University Avenue improvement plans. Since two-way operation is possible without changes in present roadway widths, and requires only a ban on curb parking, the cost of this improvement can be held to a minimum.

Other improvements required for the implementation of the recommended circulation policies are minor and consequently not discussed in this report. However, at a later date some new major improvements will be required. Among these are: the extension of Highland Avenue to serve Lot 60, and the redesign of the Regent Street-Monroe Street-Breese Terrace intersection.

POLICY NO. 12

THE UNIVERSITY IS KEENLY INTERESTED IN THE DEVELOPMENT OF AN EFFICIENT INTRA-CAMPUS SYSTEM OF MAIN SERVICE STREETS. IN THE EXPANSION AREA THE MOST LOGICAL STREETS TO PERFORM THIS FUNCTION ARE DAYTON STREET IN THE EAST-WEST DIRECTION AND CHARTER STREET IN THE NORTH-SOUTH DIRECTION. ALTHOUGH THESE STREETS ARE PART OF THE CITY'S STREET SYSTEM, IT IS DESIRABLE THAT THE CITY AND THE UNIVERSITY DEVELOP A JOINT PROGRAM FOR ACHIEVING THIS OBJECTIVE IN THE NEAR FUTURE AND CERTAINLY NOT LATER THAN THE INITIAL IMPROVEMENTS SCHEDULED FOR UNIVERSITY AVENUE AND JOHNSON STREET.

4. Bus Transportation

The campus bus is an important element in the circulation system of the Madison Campus, as shown by the statistics in Table II. A bus service in a limited area, which carries over one million passengers in its fifth year of existence and provides a frequency of service at 2, 3, and 4 minute intervals throughout the day, is a major factor in the total transportation picture of the campus. For these reasons the campus bus is treated as one of the main elements in campus circulation, providing a service not only in conjunction with parking, but in the movement of people in general.

The success of the bus service must be attributed to six basic factors:

1. The rate structure of the parking system in which a lower fee of $12 per year is charged in the terminal parking area (Lot 60). This fee provides a pass for free bus transport;

2. The policy of free parking in the terminal parking area (Lot 60) which in combination with a low cash fare on the bus ($.10) makes it possible to park on campus for $.20 for a full day. This is a very favorable rate for infrequent or temporary parkers;

3. The elongated shape of the campus which is traversed by the bus route allowing for convenient intra-campus bus rides;

4. The hilly topography of the campus;

5. The local climate; and

6. The efficiency of the service due to its frequency which eliminates virtually all waiting time.

Changes in operations or in equipment or attempts to reduce the operating loss, which might result in longer bus intervals, would do great psychological damage to bus patronage. The fact that the system operates with a loss is less important than the fact that it fulfills an extremely important function in the total transportation picture.

With the expansion of the campus to the area south of University Avenue an extension of the bus service to the South will be required. Map 4, the Parking Policies Plan, shows the recommended extension of the bus service. The proposal is related to two other recommendations:

1. The establishment of Charter Street as the main north-south service artery leading from the Service Center Area to the Central Campus;

TABLE II

CAMPUS BUS SERVICE 1956 - 1962

	1956-57	1958-59	1960-61	1961-62
. of Buses in Service	3	4	7	9
equency of Regular ekday Service	10 min. 5 min during rush hours	10 min. 5 min during rush hours	5 min. 3 min during rush hours	4 min. 2-3 min.dur rush hour
ssengers Carried				
Bus passes - regular service only	138,093	336,140	511,596	577,214
.10 cash fares regular service	58,478	123,820	371,077	484,396
SUBTOTAL	196,571	459,960	882,673	1,061,610
.05 cash fares Eagle Hgts. service	--	--	52,724	59,226
.10 cash fares nights & weekends				
GRAND TOTAL	196,571	459,960	935,397	1,120,836
nnual Revenue	$ 4,826.40	12,286.02	43,988.45	56,365.50
perating Cost	$24,802.79	32,111.99	64,181.02	80,507.23
et Loss	$19,976.39	19,825.97	20,192.57	24,141.73
oss % of Cost	80.5%	61.7%	31.5%	30.0%

pecial Service: 12 daily trips presently are provided to Eagle Heights and a 20 minute ervice on evenings, Saturdays and Sundays.

ource: U. W. Division of Physical Plant

2. The development of a major parking area along College Court north of the contemplated Regent Street improvement.

These two recommendations are discussed in the Street Improvements and Parking Policies Plan sections of this report.

It has been mentioned that an extension of the bus system into an area where the route would have to operate in part on city streets might not receive Public Service Commission approval. In the past the Commission has rejected such requests by the University. For this reason proper timing of the request for street improvement is important. Obviously the documentation presented must be carefully prepared and support from the city agencies, the public and other groups should be solicited. There is, however, another possibility which could be explored if Commission approval is not forthcoming. Charter Street, the street along which the bus route would run, does not have city wide importance. Therefore, it seems feasible that the street be designated as a Campus road from Regent Street to University Avenue. The University would grant easements to all property owners whose properties abut the street, and to the various utilities. The University would then take over the maintenance of this street. It should be noted that the University owns over half of the total frontage on Charter Street. A precedent of this kind can be found on the north side of University Avenue where private properties abutted University roads.

POLICY NO. 13

THE CAMPUS BUS SERVICE CONSTITUTES A COMPONENT OF INCREASING IMPORTANCE IN THE CIRCULATION AND TRANSPORTATION SYSTEM OF THE CAMPUS. FURTHER DEVELOPMENT AND EXPANSION OF THIS SERVICE MUST NOT BE LIMITED TO PARKING CONSIDERATIONS ALONE, BUT ALSO MUST BE DESIGNED TO MEET OTHER INTRA-CAMPUS TRANSPORTATION DEMANDS AS WELL.

POLICY NO. 14

THE SUCCESS OF A MASS TRANSPORTATION SYSTEM DEPENDS NOT ONLY ON THE QUALITY OF EQUIPMENT AND A LOW COST TO THE CUSTOMER, BUT ALSO ON THE FREQUENCY OF SERVICE. EXPERIENCE INDICATES THAT EFFICIENT MASS TRANSPORTATION SYSTEMS GENERALLY MUST BE SUBSIDIZED. THE UNIVERSITY RECOGNIZES THIS, BUT WILL CONTINUE TO OPERATE SUCH A SYSTEM AT A LEVEL NOT BELOW PRESENT STANDARDS OF EFFICIENCY. ADDITIONALLY, BUS SERVICE WILL BE EXPANDED INTO CAMPUS EXPANSION AREAS TO THE EXTENT FEASIBLE.

5. Special Circulation Problems

There are certain categories of motor vehicles which require special attention in traffic planning either because of their size, their need for speedy access to special facilities (or to all areas of the campus) or the special transportation services they render. Specifically, these vehicle categories are: taxicabs, trucks and other delivery vehicles, service and maintenance vehicles, and emergency vehicles.

All of these vehicles must have easy access to their points of destination under all circumstances. However, with the exception of emergency vehicles such as police, fire and ambulance service, there are further factors which should be evaluated regarding the other categories. For example, should unlimited access be provided, as well as space for vehicle loading for semi-trailers or large single-unit trucks, in all parts of the campus? Or should certain restrictions be imposed? Restrictions could aim at limiting delivery hours to certain time periods in order to avoid conflicts between various kinds of circulation during heavy traffic load hours. Another possibility is to close certain (or all) areas of the campus to semi-trailer deliveries. Still further, the actual demand for a service of this kind could determine if access and loading areas large enough to accommodate semi-trailers should be provided.

Pertaining to trucks and delivery vehicles, the latter approach seems to be the most desirable. In traffic engineering, it is a recommended and accepted practice to design facilities for the 30th highest annual demand hour. Applying this to the question of semi-trailer deliveries means that adequate access and loading facilities should be provided for all such buildings or areas where 30 or more deliveries occur annually.

However, any restriction in the use of heavy delivery equipment on the campus raises the question: How can deliveries be handled without semi-trailer access since the University has no control over the shippers?

The answer to this must be based on the following considerations:

1. The cost of providing access and loading facilities designed to accommodate semi-trailers and other large trucks;
2. The traffic, safety and environmental benefits resulting from limiting semi-trailer access;
3. The cost of providing a trans-shipping facility and the cost of its operation;
4. The benefits which might arise from developing the above facility into a complete central receiving and distribution center includ-

ing warehouse type storage facilities which might free more expensive space in academic buildings for uses other than storage.

University purchases are already controlled by a single agency, the Purchasing Department. Also, University Stores handles a substantial amount of supplies of all kinds from a central location. Therefore, it seems logical that all deliveries from suppliers could be processed through a central facility in all instances where there are no regular, frequent bulk deliveries of a particular commodity.

To reiterate, the frequency of such deliveries should be the determining policy factor. If the 30 hour rule is applied, it means that there must be at least 3 regular monthly deliveries, before access and loading facilities are designed so as to accommodate semi-trailers. It seems, however, that this is too liberal a design factor and that more restrictive policies should be applied. A once-a-week requirement would not change the situation greatly, while a twice-a-week frequency is more in keeping with the underlying philosophy of this report and its recommendations.

POLICY NO. 15

THE UNIVERSITY SHALL PLACE HIGH PRIORITY ON THE ESTABLISHMENT OF A CENTRAL RECEIVING AND DISTRIBUTING WAREHOUSE FACILITY TO BE LOCATED IN THE UNIVERSITY'S SERVICE AREA.

POLICY NO. 16

UNTIL POLICY NO. 15 IS IMPLEMENTED, ACCESS AND LOADING AREAS IN CONJUNCTION WITH NEW CONSTRUCTION ON THE CENTRAL CAMPUS, THE LOWER CAMPUS, THE SOUTH CAMPUS, AND THE ENGINEERING CAMPUS SHALL BE DESIGNED TO ACCOMMODATE SEMI-TRAILERS AND LARGE SINGLE UNIT TRUCKS[8] ONLY IF THE USES CONTEMPLATED FOR THE BUILDING WILL REQUIRE REGULAR BI-WEEKLY BULK DELIVERIES NORMALLY DELIVERED BY SUCH EQUIPMENT.

Regarding service and maintenance vehicles, the only significant traffic consideration is their size. The configuration of the campus road system and the environmental design objective to keep roadway widths to an absolute minimum demands that the traffic characteristics of University owned and operated equipment be related to roadway standards. Operational objectives must be evaluated not only in terms of efficiency and cost, but also in relation to environmental objectives.

POLICY NO. 17

THE UNIVERSITY SHOULD CONTINUE TO DEVELOP ITS FLEET OF MAINTENANCE AND SERVICE VEHICLES ACCORDING TO THE MOST ADVANCED TECHNOLOGICAL AND OPERATIONAL PRINCIPLES. THE TRAFFIC AND OPERATIONAL CHARACTERISTICS OF SUCH EQUIPMENT SHALL, HOWEVER, BE LIMITED TO A SIZE WHICH WILL NOT REQUIRE MAJOR RECONSTRUCTION OF EXISTING CIRCULATION FACILITIES ON THE CAMPUS, SUCH AS AN INCREASE IN PRESENT ROAD WIDTHS.

The present lay-out of the hospital introduces undesirable ambulance traffic into the gate controlled area of the campus. The adopted plan for the development of the Medical Center eliminated this. From an overall circulation point of view, it is highly desirable that the plan be implemented in connection with the contemplated remodeling programs of the hospital.

PARKING

1. Introduction

Parking is among the foremost problems created by the motor vehicle and one which has by far the most significant implications. It is also the problem for which solutions are the most difficult to find. There exists, in fact, an unreconciliable three way clevage among the desire of the automobile user to park his car in the immediate vicinity of his destination, the amount of space required for the storage of his car, and the amount of land which functionally and economically can be set aside for that purpose, particularly in areas of high intensity of use.

So far most attempts to solve this problem have failed. In many instances the attempts were designed to placate political or economic pressures, and consequently resulted in an avalanche of related problems which only aggrevated the situation. For example, making parking a mandatory requirement for new construction in downtown commercial districts has impaired traffic flow on streets, and accelerated the flight of businesses to the urban periphery because of the impossibility of providing the required parking economically. This is one of the factors which has accelerated decay in the central areas rather than providing a remedy to the problem.

It is only now that one can see the beginnings of a search for new approaches to the problem. Recently the New York City Planning Commission rejected a proposal made by its traffic consultant to construct 16 municipal 10,000 car parking ramps in Manhattan. The reason for this was the realization that these new facilities would simply increase the number of vehicles entering the congested business area without providing relief to the parking situation. This decision was made at a time when business was booming, more offices were being built, and greater activity was taking place in certain retailing functions as well as in cultural and entertainment activities. This was, as the British traffic engineer Wilfred Burns stated, "an eminently sensible decision, but one which was no doubt hard to make."[9]

Those who have studied contemporary urban problems in general and the parking problem in particular, agree that the answer lies in a more discriminating and more selective use of the private automobile. In other words, people must realize that one should not use the automobile for certain trips or that when used, it cannot be used for the full length of the trip. If, however, the driver insists on door to door access for all trips, he must be prepared to assume the cost for such personal convenience.

In the journey to work a new outlook is required. In most instances, places of work are located in the areas of highest density. This is inherent to most human activities whether economic, social, cultural, or recreational. The demands for close linkages between activities within a group or between groups are too strong to allow for their complete decentralization into areas where all parking demands can be met. The core of a city, and a university campus are but two illustrations of activity areas which must remain compact in order to function properly.

In the Sketch Plan, the need for developing the Madison Campus in a compact manner is stated as a basic planning principle. It is also recognized that very little or no parking can be accommodated in the central parts of the campus, and that the development of parking facilities should, in general, be in the periphery from where people can walk or take a bus to their destination. Although the recommendations in the Sketch Plan were adopted, it was only in the execution of these plan recommendations that large numbers of people became aware of their implications. Consequently, there have been reactions opposing these policies. However, the conditions upon which the Sketch Plan policies are based have not changed. They are still valid and constitute the only sound approach to the provision of parking on the Madison Campus.

POLICY NO. 18

AS STATED IN THE SKETCH PLAN, PARKING AT THE MADISON CAMPUS MUST BE CONSIDERED RELATIVE TO OTHER DEVELOPMENT OBJECTIVES. THESE OBJECTIVES, SUCH AS THE NEED FOR A COMPACT PATTERN OF INTERRELATED, INSTRUCTIONAL AND RESEARCH FACILITIES, AND THE NEED FOR A SYSTEM OF UNINTERRUPTED PEDESTRIAN CIRCULATION ON THE HIGH INTENSITY CENTRAL CAMPUS AS WELL AS THE NEED FOR CREATING A CAMPUS ENVIRONMENT IN KEEPING WITH A GREAT UNIVERSITY, CAN BETTER BE FULFILLED IF MAJOR PARKING AREAS ARE DEVELOPED IN THE PERIPHERY OF THE CAMPUS.

2. Faculty and Staff Parking

The University is rapidly expanding both its physical plant and personnel to accommodate increased annual enrollments in the student body. Table III summarizes faculty and staff growth since 1956, and projects this growth through 1975. The section which follows discusses the implications of this expansion program for faculty and staff parking.

Table IV shows parking statistics for the past six years. From the table it is evident there has been a continuing increase in the ratio of permits granted to the total number of spaces available. However, these tabulations are somewhat misleading for the following reasons:

a. The locational pattern of parking areas currently available does not coincide with the distribution of faculty and staff offices across the campus. Consequently, there are many areas where the demand is greater than the supply, and others where the supply exceeds the actual demand. Therefore, many faculty and staff members are assigned to areas not within close proximity to their offices. The lack of both specific parking policy and parking plan makes it rather difficult to assign spaces in the high demand-low supply areas without complaints and comments from the permit applicants. It is hoped that the policies recommended in this report will eliminate these difficulties to some degree.

b. The faculty statistics include full as well as part-time faculty appointments. Many of these latter are in the assistant categories and are held by graduate students. (The parking demand by part-time employees is generally considered to be about half of the demand generated by full-time employees.) [10] According to the Office of the Secretary of the Faculty, 4762 members of the faculty were on part-time appointments in 1962, but only 180 held a rank of instructor or higher. For planning purposes, it can be assumed that this ratio of 1/3 full time, 2/3 part-time will continue in the future.

c. The parking statistics do not reflect the location of residence and the predominant mode of travel to the campus. The Faculty Housing Survey, conducted in 1959 by the Planning Section, included questions regarding the mode of travel to and from the campus. The survey indicated that out of a total of 4442 faculty members, 56% came by automobile, 9% used public transit and 35% walked or bicycled. The percentages for graduate students with faculty appointments were 37.5%, 10.5% and 52%. When viewed in relation to the location of residence as shown on Table V, the nearby areas provided housing for about 75% of all faculty in the graduate student category, this accounts for the high percentages of persons walking or riding bicycles. The expansion of the University together with the trends in the faculty housing market have already changed this favorable picture towards a proportionately greater use of private automobiles. For the years to come it is expected that the situation will continue to change and it is reasonable to assume that a percentage distribution between the various modes of transportation will develop as follows:

1967 private automobile-60%, bus-10%, walk or bicycle-30%

1975 private automobile-65%, bus-10%, walk or bicycle-25%

d. Comparable data are not available for Civil Service Staff. However, the Planning Section has some information about the distribution of residences for the year 1958. Due to the locational pattern derived from this information and the socio-economic characteristics of the civil service employee groups, it is assumed that there is somewhat greater reliance on bus transportation among civil service employees than among faculty members. For planning purposes it is assumed that the distribution among the various modes of transportation will be the same as in the faculty groups, with the exception of a 10% shift between automobile and bus use in favor of the latter.

e. When comparing statistics for mode of travel with the actual number of parking permits issued to faculty and staff there is a substantial difference between the mode of travel figures and the permit figures. The fact that the demand for permits does not exceed the supply of spaces,[11] (lines 3 and 9 in Table IV), can be explained by the use of carpools and because a spouse has provided chauffeur service. In both cases, the mode of transportation would be indicated as automobile travel.

The following attempt to estimate future parking demand generated by faculty and staff cars is tentative and subject to change as more accurate information becomes available. However, it is important that an approximation is established at this time since the University is experiencing a growing demand for parking spaces.

TABLE III

GROWTH OF FACULTY AND STAFF

	1956	1958	1960	1962	1967*	1975*
Enrollment	16099	17145	18811	21733	38101	57126
Professorial Staff	1056	1150	1297	1490	2540	3808
Ratio	1:15.2	1:14.9	1:14.5	1:14.6	1:15.0	1:15.0
TOTAL FACULTY	4060	4656	5646	6817	12700	20402
Ratio	1:4.0	1:3.7	1:3.3	1:3.2	1:3.0	1:2.8
Civil Service Staff	3250	3530	--	3994	6350	8161
Ratio	1:5.0	1:4.9	--	1:5.4	1:6.0	1:7.0
TOTAL STAFF	7310	8186	--	10811	19050	28563

* Projections based on student/employee ratios and the following assumptions:

1. Professorial faculty: ratio will remain at present level of approximately 15 students per faculty member.
2. Total faculty: ratio will continue to increase due to increased research activities.
3. Civil service staff: ratio will decrease due to new equipment, improved management techniques, and automation.

Source: U. W. Secretary of the Faculty
U. W. Personnel Office

TABLE IV

FACULTY AND STAFF PARKING

	1956	1958	1960	1962
1. Parking Capacity & Demand	3485	3620	4740	4810
2. Faculty & Staff Permits	1824	2269	2744	3282
3. Permits as a % of Capacity	52%	63%	58%	68%
4. Total Faculty & Staff Employees	7310	8186	--	10811
5. Permits for Faculty & Staff Employees	1:4.0	1;3.6	--	1:3.3
6. Student Permits	316	615	763	963
7. % of Capacity	9%	17%	16%	20%
8. TOTAL PERMITS	2140	2884	3507	4245
9. % of Capacity	61%	80%	74%	88%

Source: U. W. Secretary of the Faculty and Personnel Office
Division of Physical Plant

TABLE V

MODES OF TRAVEL TO THE CAMPUS FROM SELECTED NEAR-BY AREAS

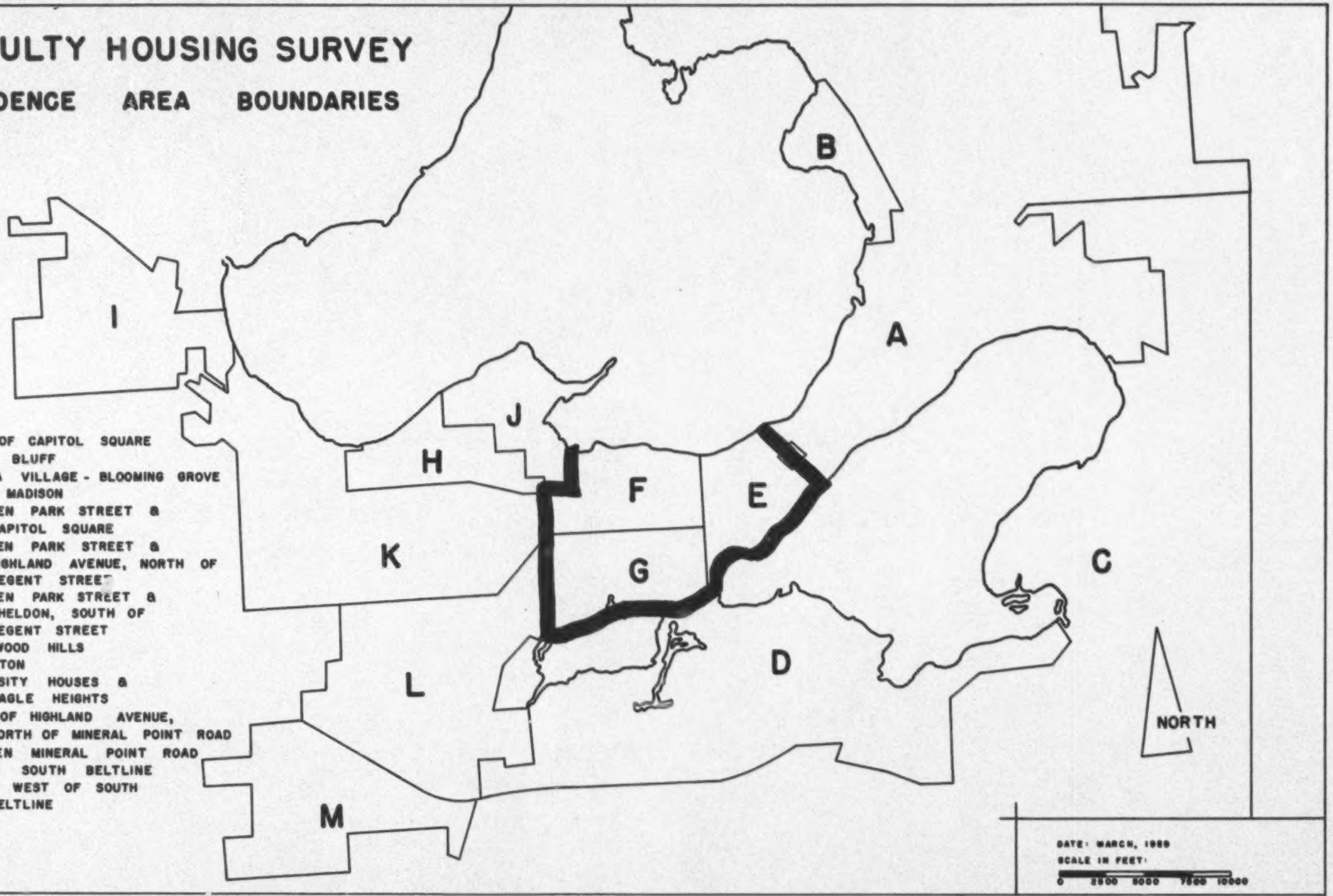
	Bus	%	Auto	%	Walk or Bicycle	%	Total Faculty in Area	%
Area E*								
Graduate Student	16		32		416			
Faculty	16		82		210			
SUBTOTAL	32	4.1	114	14.8	626	81.1	772	100.0
Area F*								
Graduate Student	16		28		400			
Faculty	20		126		210			
SUBTOTAL	36	4.5	154	19.3	610	76.2	800	100.0
Area G*								
Graduate Student	--		32		60			
Faculty	58		112		104			
SUBTOTAL	58	15.9	144	39.3	164	44.8	366	100.0
GRAND TOTAL	126	6.5	412	21.3	1400	72.2	1938	100.0

Source: Faculty Housing Questionaire, February, 1959

*See Map, following this table.

FACULTY HOUSING SURVEY

RESIDENCE AREA BOUNDARIES


B
I
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D
L
NORTH
M
DATE: MARCH, 1959
SCALE IN FEET:
0
2500
5000
7500
10000

A EAST OF CAPITOL SQUARE
B MAPLE BLUFF
C MONONA VILLAGE - BLOOMING GROVE
D SOUTH MADISON
E BETWEEN PARK STREET & CAPITOL SQUARE
F BETWEEN PARK STREET & HIGHLAND AVENUE, NORTH OF REGENT STREET
G BETWEEN PARK STREET & SHELDON, SOUTH OF REGENT STREET
H SHOREWOOD HILLS
I MIDDLETON
J UNIVERSITY HOUSES & EAGLE HEIGHTS
K WEST OF HIGHLAND AVENUE, NORTH OF MINERAL POINT ROAD
L BETWEEN MINERAL POINT ROAD & SOUTH BELTLINE
M SOUTH WEST OF SOUTH BELTLINE

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TABLE VI

FACULTY AND STAFF PARKING

ESTIMATE I

	1967		1975	
	# of Persons	Spaces Required	# of Persons	Spaces Required
Faculty	12,700	4,233	20,402	8,161
Staff	6,350	2,117	8,161	3,264
SUBTOTAL		6,350[1]		11,425[2]
Student Assignment	15%	1,270	10%	1,428
SUBTOTAL		7,620		12,853
Desired Reserve	10%	847	10%	1,428
GRAND TOTAL		8,467		14,281

---

[1] One space for every three faculty and staff members.

[2] One space for every two and one half faculty and staff members.

TABLE VII

FACULTY AND STAFF PARKING

ESTIMATE II

	1967		1975	
	# of Persons	Spaces Required	# of Persons	Spaces Required
Faculty	12,700	7,620[1]	20,402	13,261[3]
Staff	6,350	3,175[2]	8,161	4,489[4]
SUBTOTAL		10,795		17,750
Student Assignment	15%	2,159	10%	2,219
SUBTOTAL		12,954		19,969
Desired Reserve	10%	1,439	10%	2,219
GRAND TOTAL		14,393		22,188

---

[1] 60% of the faculty will use private automobiles (See page 36).

[2] 50% of the staff will use private automobiles (See page 36).

[3] 65% of the faculty will use private automobiles (See page 36).

[4] 55% of the staff will use private automobiles (See page 36).

TABLE VIII

FACULTY AND STAFF PARKING

ESTIMATE III

	1967		1975	
	# of Persons	Spaces Required	# of Persons	Spaces Required
Faculty	12,700	5,080	20,402	8,841
Staff	6,350	2,117	8,161	2,993
SUBTOTAL		7,197[1]		11,834[1]
Student Assignment	15%	1,439	10%	1,479
SUBTOTAL		8,636		13,313
Desired Reserve	10%	960	10%	1,479
GRAND TOTAL		9,596		14,792

---

[1] The ratio of 1.6 faculty and staff members per car is reduced to 1.5.

TABLE IX

FACULTY AND STAFF PARKING

ESTIMATE IV[1]

	1967		1975	
	# of Persons	Spaces Required	# of Persons	Spaces Required
Full Time Staff (1/3 of faculty)	10,583	7,408[2]	14,962	10,882[2]
Part-time Staff (75% thereof graduate students)	8,467	4,234	13,601	6,800
Undergraduates	27,930	838	41,841	1,255
Graduates (Minus those holding faculty appt.)	3,821	382	5,084	508
SUBTOTAL		12,862		19,445
Desired Reserve	10%	1,429	10%	2,161
GRAND TOTAL		14,291		21,606

---

[1] Based on parking ratios recommended by Harland Bartholomew and Associates for the University of Illinois at Urbana.[12] These are

Full Time Staff	100%
Part Time Staff	50%
Undergraduates	3%
Graduate Students	10%

[2] Because of the locational difference in parking demand, it is unlikely that all of the Civil Service Staff will require parking. Therefore, 50% of the Civil Service component is deducted.

A comparison among these estimates shows:

Estimate	1967	1975
I	8,467	14,285
II	14,393	22,188
III	9,596	14,792
IV	14,291	21,606

It is interesting to note the close relationship between estimates I and III and also between II and IV. This is more remarkable as estimates II and IV reflect the theoretical as expressed by desire(estimate II) and an assumption taken from the Illinois report (estimate IV). The two other estimates are based on the factual, as expressed through extrapolating an actual trend (estimate I) and also through analytical observation (estimate III).

Due to the above analysis it is recommended that the preliminary design target for expanding parking facilities for staff and faculty be based on estimates I and III, since they reflect actual experience.

POLICY NO. 19

THE DEVELOPMENT PLANS FOR THE UNIVERSITY'S MADISON CAMPUS SHALL BE DESIGNED TO ACCOMMODATE BY 1967 ONE CAR FOR EVERY 2.75 FACULTY MEMBERS (INCLUDING PART-TIME FACULTY AND GRADUATE STUDENTS HOLDING FACULTY APPOINTMENTS) AND CIVIL SERVICE EMPLOYEES. BY 1975, ONE CAR SPACE SHOULD BE PROVIDED FOR EVERY 2.50 SUCH PERSONS. IN ADDITION THERE SHALL BE AT ALL TIMES A RESERVE OF APPROXIMATELY 10% OF THE TOTAL NUMBER OF SPACES TO ACCOMMODATE THE NEED FOR SPECIAL AND TEMPORARY PERMITS.

3. Visitor Parking

At present the University provides free visitor parking in Lot 60 from which the campus bus privides excellent connections to all points on the campus. Visitors may park also without charge in Areas 18 and 19 located next to the Field House. Area 20 is reserved for visitors to the Hospital and the Memorial Union operates a small attendant lot abutting Murray Street in the Lower Campus Area.

In addition to University facilities for visitor parking, the City's Parking Utility operates two major parking lots in the campus area. One of these, on the Lake Street site, is scheduled for ramp construction this year. This will increase its capacity from the present 126 spaces to approximately 500 spaces. Also the Draper Lot, on the corner of Park and Johnson Streets, is programmed for expansion in 1965, increasing its capacity from 128 to 215 spaces. It is fortunate that these public facilities are located so that their service radius[13] covers two to the most important destinations of campus visitors - the Lower Campus and the Southeastern part of Bascom Hill (Map 4), The proposed increases in capacities will result in near ideal visitor parking conditions at the eastern end of the campus both for day and night activities.

It should be pointed out that there is a substantial amount of curb parking available on city streets surrounding the campus. Although restrictions on curb parking will continue to increase, these restrictions are, in general, limited to daytime only. In the evening, curb parking is not seriously affected by restrictions.

There are two areas on the campus which generate special problems with respect to visitor parking. One is the Medical Center, specifically University Hospitals, and the other is the Lower Campus Area.

At the request of the University, De Leuw, Cather and Company conducted a special study of the parking problem at the Medical Center in terms of the feasibility of the parking ramp proposed in the 1960 Medical Center plans. [14] In their study the consultants came to the conclusion that a parking facility for 250 cars would be feasible at this time despite a required rate schedule which compares unfavorably with the city's rate schedule. The consultants based revenue and expense estimates on the following assumptions:

1. Parking in the present Hospital visitor lot will be restricted to full-time staff only;
2. Parking on the Hospital entrance drive will either be prohibited or restricted to periods of less than fifteen minutes;

3. Construction of new University buildings (and the proposed University Avenue improvement program) in the vicinity of the Hospital will proceed on schedule;

4. No similar or competing facilities will be provided in the vicinity of the Hospital.

The consultants state:

> "We suggest making parking space in the proposed facility available to all motorists regardless of whether they are destined for the hospitals or not. Should it develop that garage capacity under this system is inadequate to meet the requirements of the hospitals, the basic rate structure should be raised. Drivers destined for the hospitals could still be offered the lower rates through validation of parking tickets in the hospital reception areas. If such a system is required, however, immediate consideration should be given to expanding garage capacity since the facility would be realizing a sizeable profit."[15]

The consultants recommendation suggests a facility which provides visitor parking not only for the Medical Center, but also for the western section of the campus, particularly the College of Engineering and the Southeastern part of the College of Agriculture. Both of these colleges at present suffer from lack of such parking.

The other proposed facility results from the parking problems associated with the Wisconsin Union. These center around the basic conflict between providing parking immediately adjacent to the facility (a matter of convenience to the visitor) and functional campus expansion including traffic control which relates to the costs involved in providing parking as a part of the building construction.

The main arguments presented by the Union staff arguing for the first approach are two: the number of complaints presented by visitors because of a lack of close-in parking; and secondly, the loss of business caused by the unavailability of convenient parking.

The Planning Section has analyzed a number of studies made by the Union in support of their viewpoint.[16] Table X shows a summary of the Information Booth reports for August through October of 1961. In evaluating the facts it was understood that the Union staff preferred a situation where negative comments about parking were not forthcoming and where requests for parking would not have to be turned down. It is also evident that the attendant at the Information Booth receives only a part of all complaints about the parking situation because operation of this booth is limited to day time only. Consequently, many complaints by those attending conferences, the theatre, and banquet events in the evening are presented directly to members of the Union and Wisconsin Center Staffs.[17]

TABLE X

VISITOR'S INFORMATION BOOTH PARKING STATISTICS - 1961

	July	August	September	October
Total Parking Permits Issued	263	275	229	329
(Thereof Area 60 Permits)	(141)	(75)	(32)	(20)
Parking Permits Refused	28	45	20	21
TOTAL Parking Permits Requested	291	320	249	350
% Permit Requests Granted	90%	86%	92%	94%
Total of Typical Negative Comments on Parking:				
General	9	5	3	1
Lot 60	17	6	10	7
TOTAL	26	11	13	8
Parking Request for Space to Park in Front of Information Booth for pick-up or delivery	--	--	9	10
Total Number of Inquiries Made	3745*	3866	5753**	2568
Total Number of People	2745	3077	N. A.	2240

*** No Information available about number of inquiries in regard to parking.**

**** Beginning of school year.**

N. A.-Not available

However, data shows that, on the average, more than 90% of all parking permit requests were met and that the number of recorded complaints is very small and should not be a cause for serious concern. Moreover, the Union and the Wisconsin Center are currently operating at full parking capacity and are contemplating expansion programs. Also, requests for parking in front of the Information Booth for pick-ups and deliveries and to visit the theatre ticket office are insignificant. (In addition to the months shown in the table, there were 17 requests for such parking in January, 10 in February, 17 in March, 14 in April, 15 in May, and 4 in June of 1961.) The statistics show no such requests for the months of July and August.

For many years various proposals to provide the Union with convenient parking have been discussed. These include the suggestion of constructing a parking area on lake fill to the north of the Union, as well as construction with a complete redevelopment of the area occupied by Journalism Hall and the 600 North Park Building.

As the lake fill proposal is rightly out of the question due to adverse environmental effects, the parking ramp proposal is the only possible solution for alleviating the parking situation at the Union. However, this proposal hinges on two major considerations: the traffic and other development problems related to a congested location, such as design and construction difficulties because of the apparent necessity to redevelop the site in stages, as well as the competing demands for space at this central and environmentally unique location; second and most important, the economic feasibility to provide a self amortizing parking facility at the proposed site.

The problems in the first category can no doubt be solved. Unfortunately, the outlook concerning the economic side is dim. If one uses the findings of the Hospital parking study as a basis, the following picture emerges:

1. Because of a more complex design and construction problem, one has to expect that the cost per car space would be at least 50% higher than at the Hospital ramp;

2. An estimated cost of $3,500 compared to $2,375 at the proposed Hospital ramp and at an estimated amortization rate of approximately 4% over 25 years there would have to be an annual revenue of $265.00 per year per car space plus an additional $35 to $45 to cover annual operating expenses. Assigned to faculty at a cost of $60.00 per year, evening parking would have to provide at least an additional $240.00. Assuming 100% occupancy each day of the year, the evening rate would have to yield 66 cents per space for each day. At 75% occupancy the evening rate would

have to be 99 cents and at a more realistic occupancy assumption of 50%, the charge would have to be $1.32 for evening parking;

3. In the Hospital ramp feasibility study the consultant stated that his conclusions were based on the assumption that no competing facilities would be built in the vicinity of the proposed ramp. Discussing the feasibility of a similar facility adjacent to the Union one must remember that two major public parking facilities already exist within short walking distance. One of these, the Lake Street lot, will be expanded considerably this year and the Draper Lot will be expanded in 1965. Both of these facilities are part of the city's parking system and the charges are accordingly low, only 5 cents per hour.

In view of the above factors, particularly the great difference in rates, (15 - 25 cents at city facilities compared to $1.00 or more at a Union ramp for evening parking) it seems rather doubtful that a ramp can be constructed at the Union in the foreseeable future.

It is recommended that the following policies be established to guide visitor parking at the University's Madison Campus:

POLICY NO. 20

AS PART OF ITS TRAFFIC CONTROL PROGRAM THE UNIVERSITY WILL PROVIDE METERED VISITOR PARKING IN AREAS NOT ADEQUATELY SERVED BY PUBLIC PARKING FACILITIES. AS AN INITIAL STEP THE FOLLOWING FACILITIES SHOULD BE PROVIDED FOR VISITOR PARKING:

1. A PARKING RAMP IN THE BLOCK BOUNDED BY UNIVERSITY AVENUE, RANDALL AVENUE, JOHNSON STREET AND ORCHARD STREET OR THE IMMEDIATE VICINITY THEREOF TO SERVE THE MEDICAL CENTER, THE COLLEGE OF ENGINEERING, THE EASTERN PARTS OF THE COLLEGE OF AGRICULTURE CAMPUS AND THE SOUTH CAMPUS AREAS TO THE WEST OF CHARTER STREET.

2. METERED VISITOR LOTS AT THE GATE ENTRANCES TO THE CENTRAL CAMPUS. (LOT 31, LOT 8, AND A NEW SMALL LOT AT THE CHARTER STREET ENTRANCE.)

3. VISITING FACULTY AND INVITED GUESTS STAYING FOR PERIODS LONGER THAN ONE DAY CAN BE GRANTED FACULTY PERMITS IN ACCORDANCE WITH THE RULES AND REGULATIONS GOVERNING THE ISSUANCE OF SUCH PERMITS AND UPON PAYMENT OF A PRORATED FEE.

4. Business and Service Vehicle Parking

The increasing number of business and service vehicles is occupying more and more parking space on the campus. There are several categories of vehicles in this general group exclusive of the University's own service vehicle fleet. Basically, two main categories can be distinguished. One of them consists of clearly identifiable special service or maintenance vehicles, such as post office and telephone company vehicles. The other group includes mainly passenger cars and station wagons such as official cars of various governmental agencies or the cars used by business corporations.

Business vehicles can be controlled if they are limited to loading and special business and official vehicle zones only. Presently zones in the latter category do not exist. Therefore, it is recommended that a number of such zones be established in selected parking areas servicing sections of the campus. Business permits would then be restricted to loading zones and these special zones only.

POLICY NO. 21

ALL PARKING AREAS WITHIN THE GATE CONTROLLED AREA ARE TO HAVE 30-MINUTE LOADING ZONES. THE NUMBER OF SPACES IN EACH ZONE AND THE MANNER OF CONTROL SHALL BE DETERMINED BY THE DIVISION OF PHYSICAL PLANT.

A SPECIAL BUSINESS PARKING PERMIT IS REQUIRED TO PASS THROUGH THE GATES WITH THE EXCEPTION OF EXTERNALLY MARKED PUBLIC UTILITY VEHICLES.

FOR THOSE AREAS NOT INCLUDED WITHIN THE GATE SYSTEM, A BUSINESS PARKING PERMIT IS ALSO REQUIRED FOR EACH VEHICLE, INCLUDING FEDERAL, STATE AND MUNICIPALLY OWNED VEHICLES, EXCEPT EXTERNALLY MARKED PUBLIC UTILITY VEHICLES AND EXCEPT IN PARKING AREA 60 AND SUCH OTHER PARKING AREAS CONSTRUCTED IN THE FUTURE TO SERVE A LIKE PURPOSE. THESE PROCEDURES ARE TO BE ADMINISTERED BY THE DIVISION OF PHYSICAL PLANT.

5. Student Parking

The problem of student cars has for years been a controversial issue at many colleges and universities. This problem has three basic aspects: one, is the problem of students driving their cars on the campus and on surrounding streets leading to considerable increases in vehicular traffic volumes; a second is overnight parking and storage of these vehicles at student residences; and, the third is the problem of providing daytime parking for student cars on or near the campus.

The severity of these problems varies from campus to campus. It depends on such factors as: the character of the institution with respect to its academic programs; whether it is a commuter college or a predominantly residential university; the composition of the student body; the size of the community within which it is located; and the physical relationship of the campus to its surroundings and the city as a whole.

Various attempts have been made all over the country to solve or alleviate the problems created by student cars. Among these are such administrative measures as imposing various kinds of bans on student car ownership, limiting student driving on campus, not providing parking for student cars, etc. In most cases the results have not been satisfactory either because of difficulties in enforcement, or because of the great number of special cases requiring deviation from the regulations. However, the issue cannot be evaded in the hope that it will take care of itself. Some means of regulating the use of student cars on the Madison Campus have been in effect for some time. For example, students are required to register their vehicles with the Department of Protection and Security and are not allowed to drive on campus roads between the hours of 7 AM and 5 PM, Monday through Friday, and 7 AM to 12 noon Saturdays.

The problem of student cars must be viewed from several aspects, all of which have an impact on the problem and conversely, any policies regarding student cars will have an implication upon these factors. These are composition of student population by age, sex, marital status, academic standing, locational distribution of student residences and type of housing. First, however, the University should establish a basic attitude toward the problem. This must be directed toward answering the fundamental question of whether or not the University should impose a complete ban on cars for all students or a segment of the student population (by age, sex, or academic standing). This question is not an easy one to answer. It must be considered in the light of cultural, social, economic, and to some extent, political considerations.

The automobile is a new phenomena but one already firmly grounded in our 20th Century civilization. It has become the symbol of the individual's freedom of easy movement over large areas and long distances. It is a status symbol and the convenience factor attached to its use has become the overriding factor in the public eye. These must all be considered when evaluating traffic problems and formulating solutions.

Contemporary society has recognized that certain restrictions must be imposed on the use of the automobile. These include, in addition to traffic and parking regulations, the licensing of the vehicle, taxes on fuel to defray the cost of the facilities required for automobile use such as highways and the licensing of vehicle operators. However, society has seen fit to grant drivers licenses to persons 16 and 17 years of age. Thus, most students entering college have enjoyed the privilege of driving and have had their parents' consent in doing so. Therefore, it seems rather inconsistent if this privilege is revoked by a temporary custodian (the University) at a time when a student enters a more advanced stage in life.

On the other hand, society is becoming more aware of the economic consequences of unlimited automobile use and the tremendous public costs involved in providing facilities for the private automobile. Today it is commonly accepted that the automobile user should pay a fair share for the provision of these facilities. With respect to parking, it is expected that the user should pay the total cost. Through taxes on gasoline, the automobile already pays its share of circulation facilities.

The political aspects of the student car problem are two fold. One relates to the possibility that a total or partial ban of student cars might generate adverse reactions among parents, alumni, and other outside groups culminating in a storm of negative publicity. This, however, is of lesser importance than the consequences of a no-ban policy on city-university and neighborhood-university relationships. On several occasions city officials have indicated that they would welcome some further restrictions on student cars in Madison.[18] Also, members of the City Council and residents of the University neighborhood have inquired about restrictions affecting student cars and indicated that they would favor further restrictions.

One approach to these latter pressures is to assume that they are valid and that restrictions of one kind or another should be imposed. A more logical approach is to analyze the impact of alternative bans on student cars on the total traffic situation in and around the campus. To accomplish this, the following factors must be taken into account; the composition of student population by standing, sex and marital status, the location of student residences by area and type, the incidence of car ownership in various student groups, and the fact that certain exceptions to any ban would have to be made.

Table XI shows the composition of the student population by standing and sex for the past 6 years and projections for 1967 and 1975. The significance of this table is that it shows a great increase in women students, particularly undergraduates. In 1975, the number of women probably will be equal to the number of men. Second, it shows a slight shift to a greater percentage of graduate students out of the total student population.

Table XII shows enrollment by marital status and sex. Here it is important to notice the relative decrease in married men as compared to the increase in the number of married women attending and projected to attend the University.

Table XIII shows enrollment by origin of residence. It is important to note that Madison residents comprise about 20% of the total enrollment and that this percentage, as well as that of the rest of Dane County, has increased slightly during the six year period. On the other hand, enrollments from the counties surrounding Dane have decreased, resulting in a nearly constant percentage of students coming from commuting distances. From a car ownership point of view it is most important to notice that the remainder of the state is losing in relative importance as student contributors and that this loss is picked up by students coming from other states and foreign countries. Also, it is of significance that the greatest number of out-of-state students (except Illinois) is at the graduate and professional school level.

In addition, the trends in the types of student accommodations must be analyzed. Table XIV shows student housing statistics by housing types and sex and marital status for the past 12 years. This table and the findings presented in the recent report on student housing [19] indicate important shifts in student housing patterns all of which have an impact on student car ownership. Two of these shifts are:

> "In 1946, for example, 1615 single men (16%) lived in University Residence Halls, almost 5000 (50%) in non-institutionally owned rooming houses and private homes; by 1960, the number in Residence Halls had increased to 2325 (24%) and only 2445 (26%) remained in rooming houses and homes throughout the city."[20]

> "The most significant shift in all student categories over the past decade and a half, has been a tremendous increase in apartment occupancy - from 1/3 to 2/3 of the married students, from 7% to 13% of the single women and virtually 0% to 25% of the single men. Importantly, this shift occurred during a period in which total enrollment reached

TABLE XI

ENROLLMENT BY STANDING AND SEX

--------		1956	%	1958	%	1960	%	1962	%	1967[1]	%	1975[2]	%
Freshmen	Men	2067	12.8	2015	11.8	2532	13.5	2476	11.4	4267	11.2		
	Women	1291	8.0	1373	8.0	2075	11.0	2140	9.8	3694	9.7		
	TOTAL	3358	20.8	3388	19.8	4607	24.5	4616	21.2	7963	20.9		
Sophomore	Men	2179	13.5	1940	11.3	2181	11.6	2497	11.5	4224	11.1		
	Women	1098	6.8	1106	6.4	1520	8.1	1875	8.6	3410	8.9		
	TOTAL	3277	20.3	3046	17.7	3701	19.7	4372	20.1	7634	20.0		
Junior	Men	1990	12.4	1933	11.3	1907	10.1	2278	10.5	3688	9.7		
	Women	759	4.7	861	5.0	935	5.0	1357	6.2	2599	6.8		
	TOTAL	2749	17.1	2794	16.3	2842	15.1	3635	16.7	6287	16.5		
Senior	Men	2023	12.6	2101	12.2	1750	9.3	2056	9.5	3425	9.0		
	Women	854	5.3	901	5.3	840	4.4	1106	5.1	2106	5.5		
	TOTAL	2877	17.9	3002	17.5	2590	13.7	3162	14.6	5531	14.5		
Special	Men	16	.1	31	.2	160	.9	170	.8	265	.7		
	Women	29	.2	50	.3	69	.4	111	.5	250	.7		
	TOTAL	45	.3	81	.5	229	1.3	281	1.3	515	1.4		
Under-graduate	Men	8275	51.4	8020	46.8	8530	45.4	9477	43.6	15871	41.7		
	Women	4031	25.0	4291	25.0	5439	28.9	6589	30.3	12059	31.6		
	TOTAL	12306	76.4	12311	71.8	13969	74.3	16066	73.9	27930	73.3	41841	73.2
Professional	Men	785	4.9	819	4.8	760	4.0	776	3.6				
	Women	31	.2	29	.2	36	.2	29	.1				
	TOTAL	816	5.1	848	5.0	796	4.2	805	3.7				
Graduate	Men	2478	15.4	3258	19.0	3250	17.3	3751	17.3				
	Women	499	3.1	728	4.2	796	4.2	1111	5.1				
	TOTAL	2977	18.5	3986	23.2	4046	21.5	4862	22.4				
Prof. & Grad.	Men	3263	20.3	4077	23.8	4010	21.3	4527	20.9	7790	20.4		
	Women	530	3.3	757	4.4	832	4.4	1140	5.2	2381	6.3		
	TOTAL	3793	23.6	4834	28.2	4842	25.7	5667	26.1	10171	26.7	15285	26.8
Grand Total	Men	11538	71.7	12097	70.6	12540	66.7	14004	64.4	23661	62.1		
	Women	4561	28.3	5048	29.4	6271	33.3	7729	35.6	14440	37.9		
TOTAL ENROLLMENT		16099	100.0	17145	100.0	18811	100.0	21733	100.0	38101	100.0	57126	100.0

Sources: U. W. Enrollment Reports

[1] Projections 1967: U. W. Office of Institutional Studies

[2] Projections 1975: U. W. Department of Planning & Construction, Planning Section

TABLE XII

ENROLLMENT BY MARITAL STATUS AND SEX

		1956	%	1958	%	1960	%	1962	%	1967	%
der- aduate	Single Men	6955	43.2	6762	39.4	7567	40.2	8552	39.3	14575	38.3
	Single Women	3817	23.7	4041	23.6	5153	27.4	6215	28.6	11335	29.7
	SINGLE TOTAL	10772	66.9	10803	63.0	12720	67.6	14767	67.9	25910	68.0
	Married Men	1320	8.2	1258	7.3	963	5.1	925	4.3	1296	3.4
	Married Women	214	1.3	250	1.5	286	1.5	374	1.7	724	1.9
	MARRIED TOTAL	1534	9.5	1508	8.8	1249	6.6	1299	6.0	2020	5.3
rad. & rof.	Single Men	1616	10.0	1879	11.0	1943	10.3	2274	10.5	3923	10.3
	Single Women	419	2.6	525	3.0	579	3.1	788	3.6	1622	4.3
	SINGLE TOTAL	2035	12.6	2404	14.0	2522	13.4	3062	14.1	5545	14.6
	Married Men	1647	10.2	2198	12.8	2067	11.0	2253	10.4	3867	10.1
	Married Women	111	.7	232	1.4	253	1.3	352	1.6	759	2.0
	MARRIED TOTAL	1758	10.9	2430	14.2	2320	12.3	2605	12.0	4626	12.1
OTALS	Single Men	8571	53.2	8641	50.4	9510	50.5	10826	49.8	18498	48.6
	Single Women	4236	26.3	4566	26.6	5732	30.5	7003	32.2	12957	34.0
	SINGLE TOTAL	12807	79.5	13207	77.0	15242	81.0	17829	82.0	31455	82.6
	Married Men	2967	18.4	3456	20.2	3030	16.1	3178	14.7	5163	13.5
	Married Women	325	2.0	482	2.8	539	2.9	726	3.3	1483	3.9
	MARRIED TOTAL	3292	20.4	3938	23.0	3569	19.0	3904	18.0	6646	17.4

ource: U. W. Enrollment Reports

967 Projection by Office of Institutional Studies

TABLE XIII

ENROLLMENT BY ORIGIN OF RESIDENCE

	1956	%	1958	%	1960	%	1962	%
City of Madison	3096	19.2	3546	20.7	3730	19.8	4372	20.1
Rest of Dane County	380	2.4	435	2.5	431	2.3	563	2.6
Madison Region*	1249	7.7	1310	7.6	1358	7.2	1491	6.9
REGIONAL SUBTOTAL (Representing approximately 1 hr. commuting isoline)	4725	29.3	5291	30.9	5519	29.3	6426	29.6
Rest of Wisconsin	7789	48.4	7646	44.6	7627	40.5	8459	38.9
Illinois	1031	6.4	1223	7.1	1746	9.3	1930	8.9
Other States and U. S. Territories	1992	12.4	2336	13.6	3116	16.6	3975	18.3
Foreign	562	3.5	649	3.8	803	4.3	935	4.3
TOTAL	16099	100.0	17145	100.0	18811	100.0	21733	100.0

* Rock, Jefferson, Dodge, Columbia, Sauk, Iowa, and Green Counties.

Source: U. W. Enrollment Reports

TABLE XIV

STUDENT HOUSING

BY TYPE, SEX AND MARITAL STATUS

		1948	%	1952	%	1956	%	1958	%	1960	%	1962	%
University Dormitories	SM	1799		1445		1495		1769		2325		2290	
	MM	25		10		--		--		--		7	
	W	949		1064		1074		1242		2257		2330	
	TOTAL	2773	14.9	2519	18.6	2569	16.0	3011	17.6	4582	24.2	4627	21.3
Fraternities and Sororities	SM	935		115		1174		1145		1088		1199	
	MM	14		6		--		--		--		4	
	W	444		444		475		454		487		524	
	TOTAL	1393	7.5	1565	11.5	1649	10.2	1599	9.3	1575	8.3	1727	7.9
Apartments and housekeeping rooms (includes U.W. married student apartments)	SM	--		521		1326		1758		2420		2221	
	MM	1432		1035		1772		1952		2075		2194	
	W	343		300		453		626		863		1390	
	TOTAL	1775	9.5	1856	13.7	3551	22.1	4336	25.3	5358	28.3	5805	26.7
Parents' or Relative Home and own Homes (including trailers)	SM	1178		726		805		794		920		1245	
	MM	523		289		570		668		563		513	
	W	629		522		545		662		688		917	
	TOTAL	2330	12.5	1537	11.3	1920	11.9	2124	12.4	2171	11.5	2675	12.3
Approved Housing Rooming Houses and Rooms in Private Homes	SM	5186		3328		3469		2814		2445		3321	
	MM	476		109		16		10		13		121	
	W	2040		1640		1911		1840		1862		2363	
	TOTAL	7702	41.4	5077	37.4	5396	33.5	4664	27.2	4320	22.8	5805	26.7
Commuting, Milwaukee graduate students, no address, etc. veterns, projects	SM	1130		274		302		377		371		558	
	MM	1363		660		609		847		433		318	
	W	161		83		103		187		117		228	
	TOTAL	2654	14.2	1017	7.5	1014	6.3	1411	8.2	921	4.9	1104	5.1
GRAND TOTAL		18627		13571		16099		17145		18927		21743	

> a post-war peak, dipped during the early 1950's, and returned by 1960 to almost the same level as that registered in 1946. The net result has been an increase of 150% in the number of Wisconsin students living in apartments."[21]

What picture emerges from an analysis of the above statistics? How would restrictions on car ownership and use improve present conditions with respect to traffic and parking?"

To answer the first question, the changes in student's housing are important. The great increase in apartment living is causing a dispersal of student residences to all parts of the city. In 1958 about 66% of the total student population resided within walking distance of the instructional campus.[22] It can be estimated by taking into account the housing statistics for 1962 and the impact of campus expansion, as well as the development trends in the area surrounding the campus, that at present the percentage of students living within walking distance had declined to 60% or less. A shift is therefore occurring in the demand for parking in the campus area from a demand for storage parking for student vehicles, to be used only during weekends and occassional evening trips, to more and more day time parking for students using their automobiles for travel between their place of residence and the campus.

To answer the other question, one must first of all assume that under no conditions could a ban on student automobiles include the cars of graduate students. Therefore, about one third of all student automobiles would not be affected by such a ban. (Table XV). It is important to point out that about 70 - 75% of the graduate students have or will have faculty appointments and that the automobiles of this group have been included in the previous discussion of faculty and staff parking.

Within the undergraduate group, the following car ownership characteristics can be established:

1. The incidence of car ownership increases with more advanced class standing from about 1 car for every 3 students in the freshman year to 1 car for every 2 students in the senior year, (Table XV);

2. The total number of cars in each class group is about equal because of the decline in the number of students in the more advanced groups, (Table XI and XV);

3. There is a higher incidence of car ownership among men than women students. The Division of Residence Halls recommended that in planning the new dormitory areas a standard of 25

TABLE XV

STUDENT AUTOMOBILE REGISTRATION

	1956			1958			1960		
	No. of Cars	% of Total Cars	% of Class Registering Automobile	No. of Cars	% of Total Cars	% of Class Registering Automobile	No. of Cars	% of Total Cars	% of Class Registering Automobile
Freshmen	1150	15.0	34.2	1112	13.0	32.8	1253	15.2	27.2
Sophomore	1533	20.0	46.8	1257	14.7	41.3	1334	16.2	36.0
Junior	1534	20.0	55.8	1581	18.5	56.6	1355	16.4	47.7
Senior	1688	22.0	58.7	1812	21.2	60.4	1544	18.7	59.6
Undergraduates	5905	77.0	48.2	5762	67.4	47.1	5486	66.5	39.9
Graduates	1764	23.0	46.5	2794	32.6	57.8	2766	33.5	57.1
TOTAL	7669	100.0	47.8	8556	100.0	50.1	8252	100.0	44.4

Source:

Annual Reports 1957, 1959, and 1961, U. W. Department of Protection and Security.

car spaces for every 100 men, but only 10 spaces for every 100 women be used. [23] Car registration statistics show a much greater difference. For instance, in 1956 women accounted for only 5% of the total number of cars registered. [24] The recent student living cost and expenses study[25] indicated that at the undergraduate level 21.7% of resident and 19.8% of non-resident men owned an automobile compared to 4.2% of resident and 3.0% of non-resident women.

4. Madison and Dane County residents register more cars per 100 students than students from other parts of the state. The lowest car registration incidence is logically in the group representing other states and foreign countries. [26] (It is probable that many students in the first group register their parents' cars in order to protect themselves against violation of University regulations in case of an incidental use of such cars.)

Enrollment trends indicate that in the groups representing the lowest car ownership, rates are increasing more rapidly than in the single men and married men junior-senior groups. This accounts for the highest car registration rate at the undergraduate level.

This factor and the inevitable fact that a great number of exceptions would have to be made to any regulation banning undergraduates from bringing cars to, and using them in, Madison must be kept in mind when discussing the merits of a ban. For instance, it is safe to assume that if cars would be banned for undergraduates, only about half of the cars registered by this group (some 3,000 vehicles) would be eliminated from city streets and parking areas. This is based on the assumption that such groups as married students, disability cases, commuting students from areas without public transportation, and students who need a car for their work outside the University will be granted permits to use their cars, as well as the fact that car ownership in these groups is higher than in the total group. In addition, parent's cars registered by Madison and Dane County residents will not disappear from the city.

If the ban would affect the freshmen-sophomore group only, there would probably be lesser need to grant exceptions. However, the car ownership ratio in that group is much lower so that only about 2,000 cars would have been eliminated out of a total of 9,300 if restrictions had been enacted in 1961.

Therefore, if the conventional approach of banning student cars at the undergraduate level is warranted, it probably will result only in a 20 to 30% decrease in student car registrations. In addition, the enforcement of such a ban on a city wide basis will be rather difficult. It is also quite likely that a much greater percentage of illegal car use would occur than under present regulations (the Director of the Department of Protection and Security estimates that currently 15 to 20% of student cars are not registered). Therefore, it seems desirable to explore other more positive approaches to the problem than the negative approach inherent in a ban of student cars.

It was pointed out earlier that the privilege of automobile use must be combined with an understanding of its consequences in terms of the cost of its use to the public. In the previous sections, dealing with faculty, staff, and visitor parking, the provision of parking facilities was related to cost, user benefit, and true need. It seems reasonable to discuss the problem of student cars in similar terms. In other words, the student using his car should not expect any subsidy from the University or the community which would help defray the true cost of owning, operating and storing an automobile.

Student car problems can be broken down into the following categories:

1. The moving vehicle:
    a. the "journey to work" traffic from home to campus and back.
    b. shopping and other traffic.
    c. entertainment and recreation traffic evenings and on weekends.
    d. on-campus traffic.
2. The parked vehicle:
    a. at a residence outside the campus neighborhood - primarily night time parking.
    b. at a residence on campus or in the campus neighborhood - primarily storage parking as these vehicles often are used only for occassional evening trips or on weekends.
    c. commuter parking of vehicles used for trips to and from the campus.

Below is a brief analysis made of each of these problems along with suggested solutions.

The "journey to work" traffic of student vehicles (except for those graduate students holding faculty appointments) differs considerably from the general home to work traffic. These differences are in both hourly volume structure and in peak hour characteristics. The studies on student circulation on the Madison Campus made in 1958 and those conducted for the

Milwaukee Campus indicate that student arrivals to the campus take place at a gradually accelerating rate up to the 9:55 AM class hour. At this time the highest arrival rate occurs, with only occassional arrivals thereafter. Departure from the campus begins at the noon hour with peak departures occurring after the 1:20 PM and 2:25 PM classes. The peak hours of student travel to and from campus occur, therefore, after the general morning rush hours (7 to 9 AM) or before the afternoon rush hours (4 to 6 PM). A ban on student automobiles would only reduce rush hour congestion in a minor way.

Because of the scarcity of parking available to commuting students in the campus area, and the remote location of Lot 60 where the University presently grants student permits, cars generally remain in their respective parking spaces for the duration of the student's stay on campus. During the day few cars leave the space they occupy for occasional shopping or other trips. The number of daily trips by student cars is less than those of the average passenger vehicle.

Entertainment and social trips on evenings and week-ends bring out a number of cars which are stored. The majority of these trips originate in or are destined for the areas of heavy concentration of student residences on the campus and its surroundings, thereby resulting in higher than average evening and weekend volumes in the campus area. Because of its location and surrounding land use characteristics, the campus neighborhood is an area of heavy traffic loads during regular work day hours as well. For this reason evening and week-end traffic is not creating new problems. Rather, it is fortunate that this special traffic occurs in an area equipped to handle heavy loads of regular daytime circulation.

On the central campus the use of student cars during the working day has been prohibited for several years.[27] This ban did not eliminate the problem of increasing vehicular traffic circulation, although it certainly resulted in a reduction in the total number of vehicles on the roads of the central campus. The recommendation to control access to the central campus for all unauthorized vehicles will not eliminate the need for continuing the present student restrictions.

The above analysis of moving traffic indicates that full or partial prohibition on the use of automobiles by students will have very little impact on traffic flow in the City of Madison in general, nor will a ban improve the situation in the campus neighborhood enough to warrant restrictions.

It is generally recognized that the problems created by moving automobiles can be solved much more easily than those resulting from standing vehicles. Unfortunately, the solution to the problem of parking is not automatically solved by providing more and more parking. It is only at destinations where the demand is constant and where each potential driver can be assured a parking space at reasonable cost that the solution is a matter of simple arithmetic. In congested areas of varying peak demands, higher facility costs and alternative transportation modes, where parking can be provided only on the basis of assumptive design factors, each parking facility generates demands beyond its capacity. The consequence is a snowballing chain reaction which can continue ad absurdum.

Only recently recognition has been given to the fact that often in congested central city locations, the approach to the parking problem lies in the opposite direction: that less parking, or no parking, is the only sensible solution. If the destination has a strong pulling power, and its economic roots are firmly embedded as in the lower and central parts of Manhattan Island or, as in the case of the Madison Campus, it caters to a captive audience (the students) and where alternative modes of transportation are available, a no-parking policy is a feasible solution.

If such a policy is applied to the Madison Campus, the following situation would arise:

1. Commuting students would compete for public parking spaces with visitors to the University as well as others conducting business in the various campus surroundings.
2. Students living at Residence Halls would not bring cars to Madison or they would have to rent private storage parking or try to store their cars at the curb on streets.
3. For students living in private accommodations and not using their cars for travel to and from the campus, there would be no change from the present situation.

However, if taken with a number of other measures, the "no student parking" policy could result in a workable solution:

1. The regulation requiring registration of all student-operated private vehicles in Madison remain in force;
2. Except for hardship cases entitling the permit holder to apply for a fee parking permit in faculty-staff areas, (Lot 60 or other peripheral areas) all student vehicles would have to carry clear identification stickers on both rear and front bumpers;

3. Student vehicles would be subject to the same fees and charges as other vehicles. In addition, a registration fee of $.50 would be charged for all permits issued under above;

4. Student vehicles would not be allowed to park in University provided visitor parking facilities during the hours from 7 AM to 5 PM;

5. Free storage parking for students in Lot 60 will be abolished;

6. Fines should be increased from the present token amounts to a more realistic level so as to provide an effective deterrent to potential violators.

A supplementary policy is also required pertaining to vehicles owned by students residing in University housing and in other organized housing units. Because of proximity to the campus proper, the problem consists primarily of storage parking for vehicles not in regular use. Consistent with a no-parking policy for commuting students, parking should not be provided at these accommodations, especially by the University. It is therefore suggested that the Residence Halls parking system be abolished and made part of the general faculty-staff system and that no student parking be provided in new dormitory areas. Since living at Residence Halls must be considered a privilege and is economically advantageous, and since the provision of parking at new halls substantially increases the cost to all students, no subsidized parking should be provided for a minority of the total population in these facilities. However, students bringing their cars to Madison shall show proof that they have made arrangements to have their cars stored in off-street parking facilities.

A similar situation exists at fraternities, sororities, and other approved and organized living units. Although these units are not under direct University management, the University does control the living conditions in these units; perhaps more so than in the other private accommodations. Furthermore, most of these units do not provide adequate off-street parking for all of their residents, and most of them are located within walking distance from the campus. Consequently, it seems justifiable that the University apply the same regulations to students living in such units as those affecting students residing in University operated housing. In other words, these students would also have to show proof that their cars are stored off-street either at their residence or elsewhere.

To complement University parking policies, the city should continue its restrictive curb parking program in the areas surrounding the campus, and when necessary, expand it. It is also desirable that no overnight parking be permitted on streets in the area shown in the University's Sketch Plan as the joint City-University planning area. On-street night parking permits could be granted to such residents in the area who are not single undergraduate students and only in cases when off-street parking is not available. An ordinance of this type is presently in force in Milwaukee and has proven to be enforceable.

In conclusion, the following policies are recommended to govern and regulate the use of student cars and parking at the Madison Campus.

POLICY NO. 22

THE UNIVERSITY BELIEVES THAT POLICIES INVOLVING THE REGISTRATION, IDENTIFICATION AND CONTROL OF THE CARS OF STUDENTS, AS STUDENTS, SHOULD BE RECOMMENDED BY STUDENT GOVERNMENT WITHIN THE FRAMEWORK OF THE POLICIES SET FORTH AS FOLLOWS:

POLICY NO. 23

THAT THERE IS NO OBLIGATION TO PROVIDE OFFSTREET PARKING FOR THE STUDENT VEHICLE AND THAT PROVIDING SUCH PARKING IS THE STUDENT'S OBLIGATION.

POLICY NO. 24

THAT THE BASIC MODES OF STUDENT TRAVEL TO AND FROM CAMPUS SHOULD BE BY FOOT, BY BICYCLE AND BY PUBLIC TRANSPORTATION EXCEPT WHERE THE MOTOR VEHICLE IS THE ONLY FEASIBLE MEANS OF TRANSPORTATION TO THE CAMPUS. ONLY IN THE LATTER CASE WILL THE UNIVERSITY PROVIDE PARKING. APPLICATIONS FOR SUCH PARKING PERMITS SHALL BE ENDORSED BY THE DEAN OF STUDENTS AND IN THE CASE OF GRADUATE STUDENTS, BY THE DEAN OF THE GRADUATE SCHOOL. THE DIVISION OF PHYSICAL PLANT WILL REVIEW THESE APPLICATIONS AND GRANT SUCH PERMITS UPON PAYMENT OF REGULAR PARKING FEES. GRADUATE STUDENTS HOLDING FACULTY APPOINTMENTS ARE ENTITLED TO APPLY FOR FACULTY PARKING PERMITS ACCORDING TO THE RULES AND REGULATIONS GOVERNING FACULTY AND STAFF PARKING.

POLICY NO. 25

NO STUDENT PARKING WILL BE PROVIDED AT UNIVERSITY RESIDENCE HALLS FOR RESIDENTS THEREIN EXCEPT AS HERE ABOVE PROVIDED AND EXCEPT IN MARRIED STUDENT HOUSING AREAS; NOR WILL THE UNIVERSITY PROVIDE STORAGE PARKING FOR STUDENT AUTOMOBILES IN ANY PARKING AREA UNDER ITS JURISDICTION.

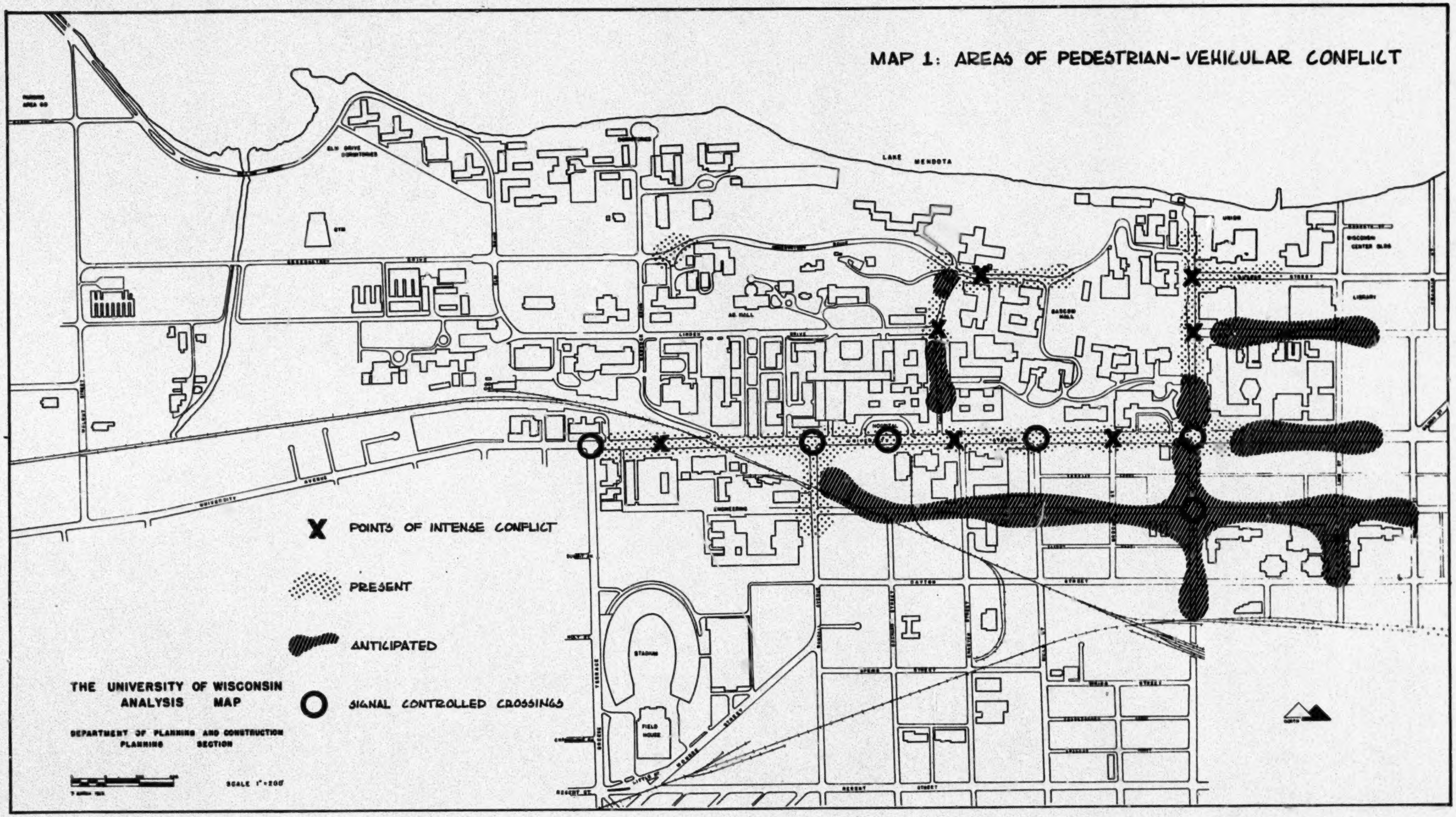
POLICY NO. 26

IT IS RECOMMENDED THAT THE EXISTING PENALTY STRUCTURE BE RESTUDIED SO AS TO PROVIDE A MORE EFFECTIVE DETERRENT TO POTENTIAL VIOLATORS.

POLICY NO. 27

TO SUPPLEMENT ITS PARKING POLICIES, THE UNIVERSITY SUPPORTS RESTRICTIVE CITY PARKING PROGRAMS IN THE CITY-UNIVERSITY PLANNING AREA AS OUTLINED IN THE UNIVERSITY'S SKETCH PLAN.

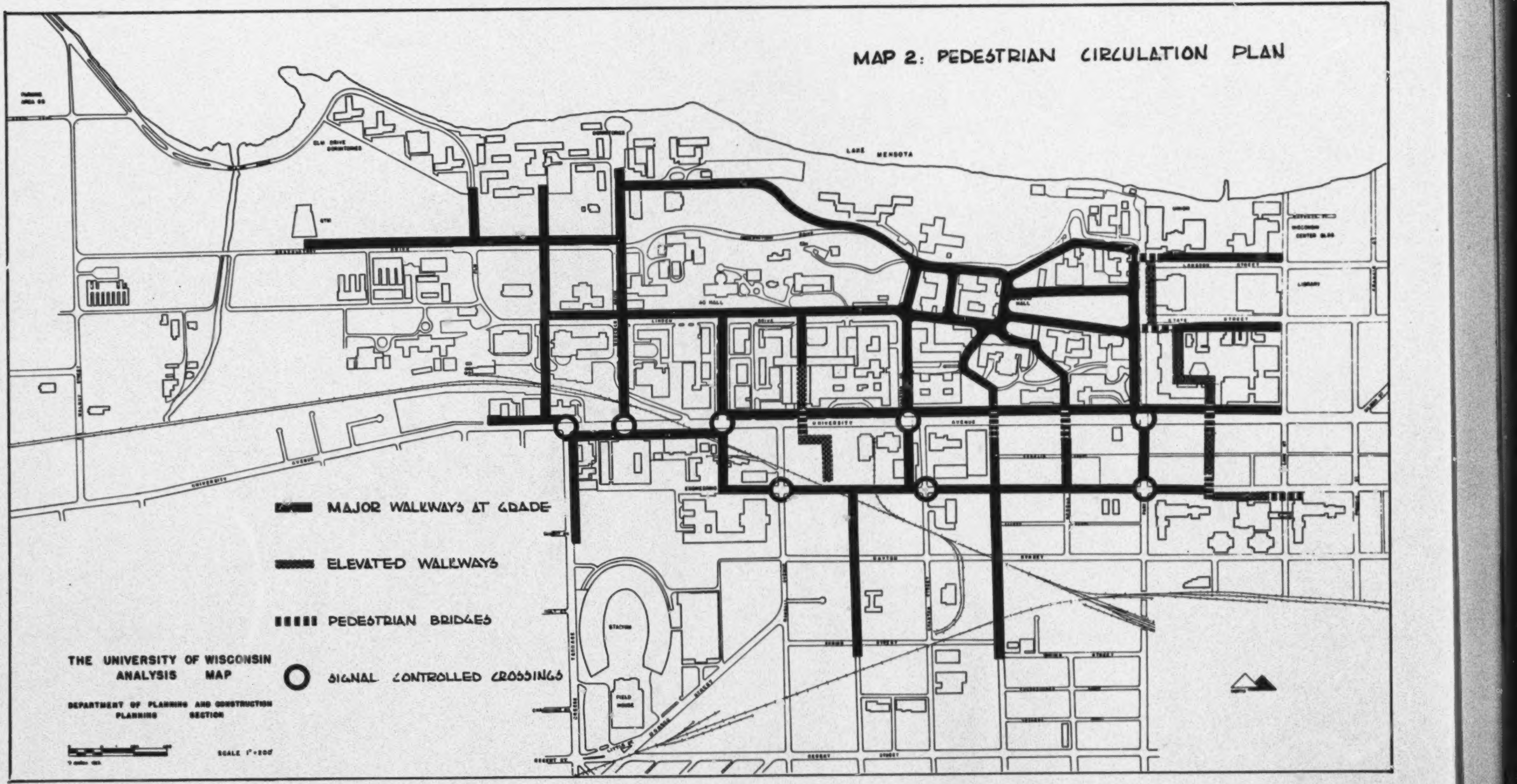
MAP 1: AREAS OF PEDESTRIAN-VEHICULAR CONFLICT


LAKE MENDOTA
ELM DRIVE DORMITORIES
GYM
AG HALL
BASCOM HALL
UNION
LIBRARY
WISCONSIN CENTER BLDG
ENGINEERING
STADIUM
FIELD HOUSE
UNIVERSITY AVENUE
LINDEN DRIVE
DAYTON STREET
REGENT ST
X POINTS OF INTENSE CONFLICT
PRESENT
ANTICIPATED
SIGNAL CONTROLLED CROSSINGS
NORTH

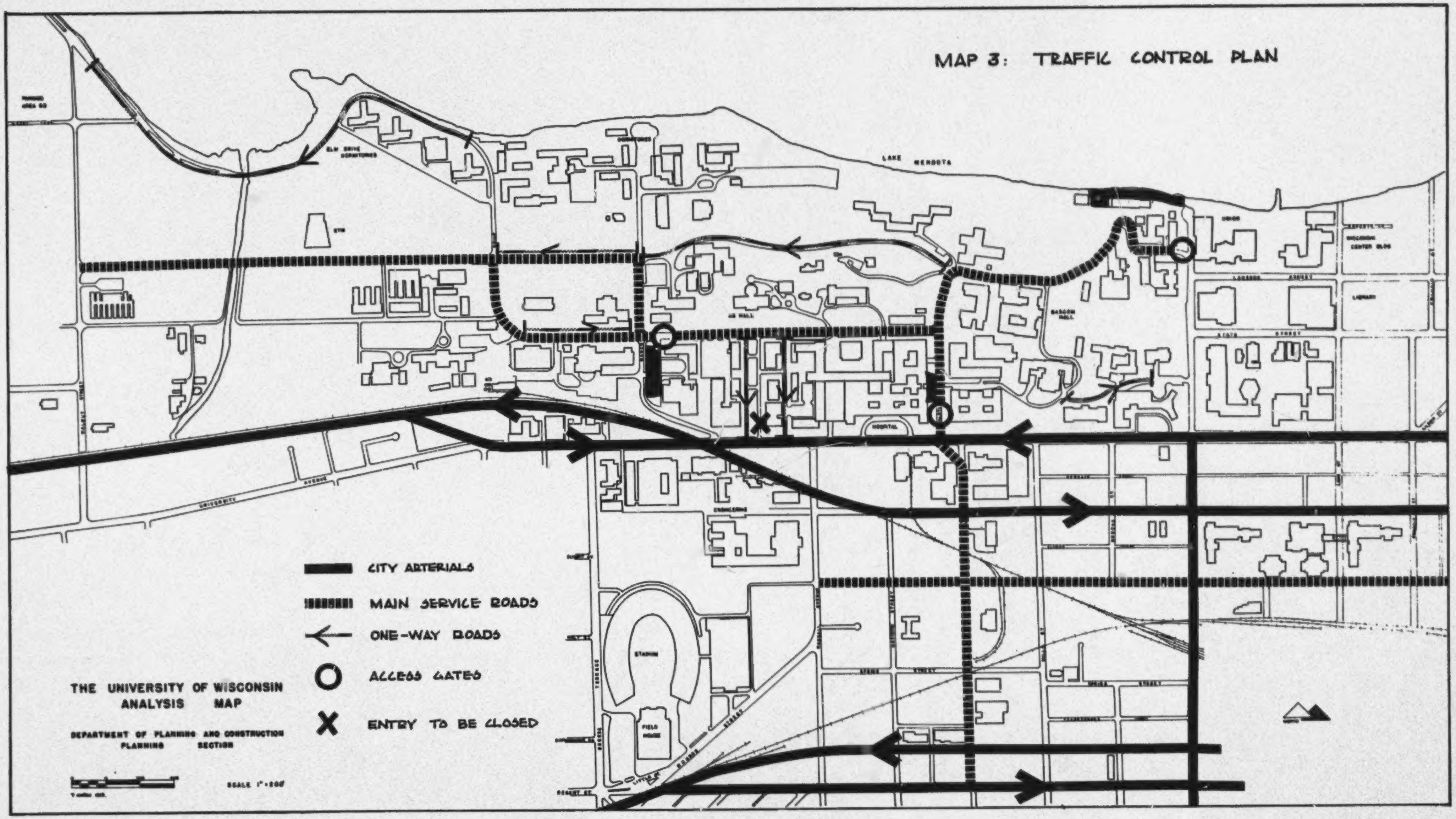
THE UNIVERSITY OF WISCONSIN
ANALYSIS MAP

DEPARTMENT OF PLANNING AND CONSTRUCTION
PLANNING SECTION

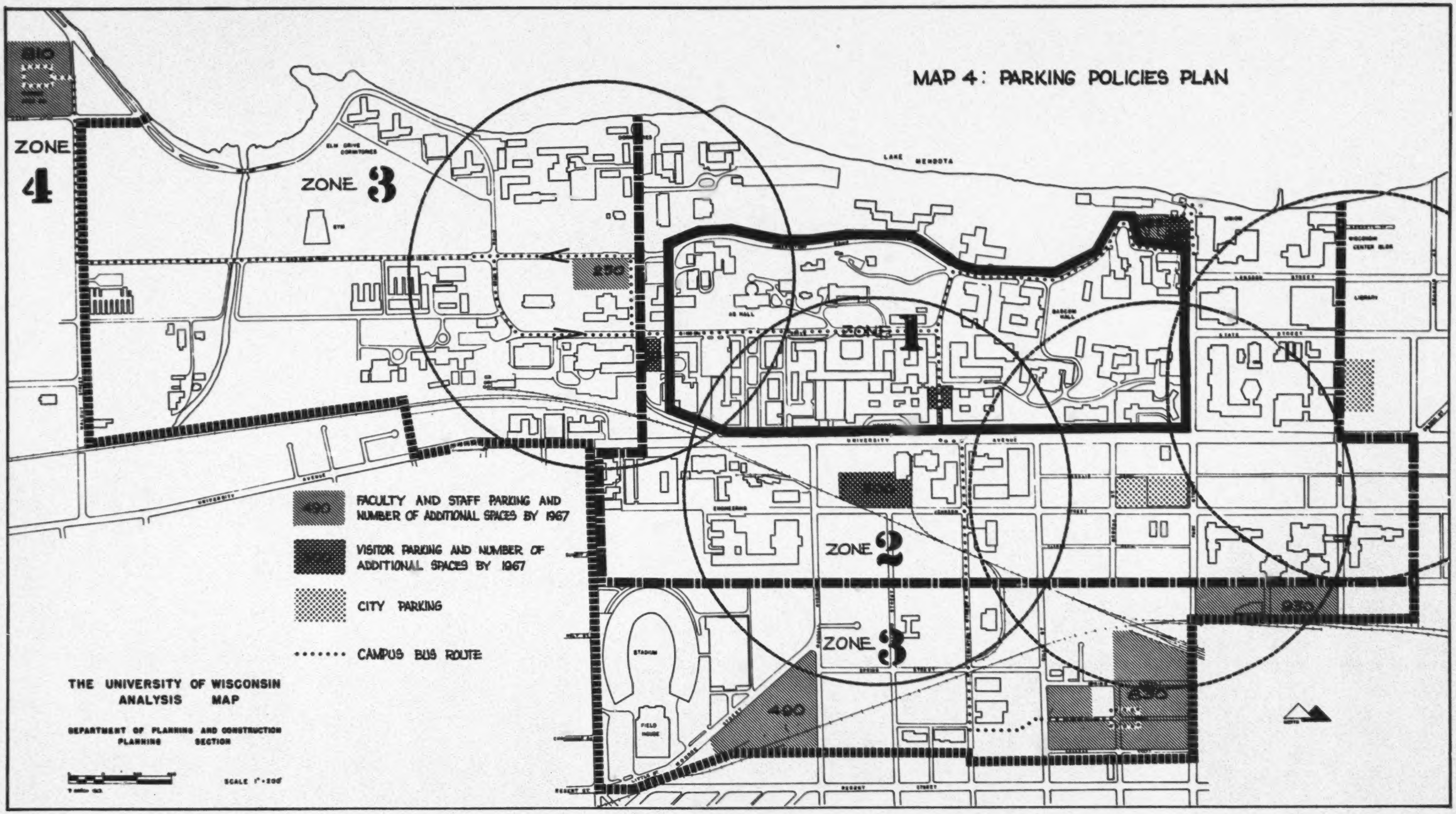
SCALE 1" = 200'


MAP 2: PEDESTRIAN CIRCULATION PLAN
LAKE MENDOTA
ELM DRIVE DORMITORIES
GYM
UNION
WISCONSIN CENTER BLDG
LIBRARY
LANGDON STREET
STATE STREET
BASCOM HALL
AG HALL
LINDEN DRIVE
UNIVERSITY AVENUE
ENGINEERING
DAYTON STREET
JOHNSON STREET
REGENT STREET
STADIUM
FIELD HOUSE
MAJOR WALKWAYS AT GRADE
ELEVATED WALKWAYS
PEDESTRIAN BRIDGES
SIGNAL CONTROLLED CROSSINGS
THE UNIVERSITY OF WISCONSIN
ANALYSIS MAP
DEPARTMENT OF PLANNING AND CONSTRUCTION
PLANNING SECTION
SCALE 1" = 200'

MAP 3: TRAFFIC CONTROL PLAN


LAKE MENDOTA
ELM DRIVE DORMITORIES
GYM
BASCOM HALL
UNION
WISCONSIN CENTER BLDG
LIBRARY
LANGDON STREET
STATE STREET
HOSPITAL
ENGINEERING
UNIVERSITY AVENUE
STADIUM
FIELD HOUSE
REGENT ST.
CITY ARTERIALS
MAIN SERVICE ROADS
ONE-WAY ROADS
ACCESS GATES
ENTRY TO BE CLOSED
THE UNIVERSITY OF WISCONSIN
ANALYSIS MAP
DEPARTMENT OF PLANNING AND CONSTRUCTION
PLANNING SECTION
SCALE 1"=500'

MAP 4: PARKING POLICIES PLAN


ZONE 4
810
ZONE 3
ELM DRIVE DORMITORIES
250
LAKE MENDOTA
AG HALL
ZONE 1
BASCOM HALL
UNION
WISCONSIN CENTER BLDG
LANGDON STREET
LIBRARY
STATE STREET
UNIVERSITY AVENUE
ENGINEERING
JOHNSON STREET
ZONE 2
ZONE 3
230
630
490
STADIUM
FIELD HOUSE
REGENT STREET
490 FACULTY AND STAFF PARKING AND NUMBER OF ADDITIONAL SPACES BY 1967
VISITOR PARKING AND NUMBER OF ADDITIONAL SPACES BY 1967
CITY PARKING
······· CAMPUS BUS ROUTE
THE UNIVERSITY OF WISCONSIN
ANALYSIS MAP
DEPARTMENT OF PLANNING AND CONSTRUCTION
PLANNING SECTION
SCALE 1" = 200'

The Implementation Program

The policies recommended in this report can be divided into two broad categories. First, there are policies which reflect a basic attitude to the problem in general and define the University's long-range goals and development objectives. The other group represents action oriented statements which, when implemented over time, will lead towards achieving the policies in the first group. Consequently, it follows that the general objectives can only be attained if there is a program for effectuating the latter.

Below is outlined an implementation program which recommends a sequence for the various steps to be undertaken, as well as the financing of the proposals. Finally, a recommendation is made to assure that the problems relating to circulation and parking in the future not be studied and discussed on an ad hoc basis, but be given continuous comprehensive attention by the Campus Planning Committee and those University Departments whose task it is to plan, manage, and control them.

1. General Policies

It is recommended that the Campus Planning Committee, the Administration, the Board of Regents, and other such groups as the Administration deems necessary approve the following policy statements as representing the University's view on circulation and parking:

Policy	1	page 8
	2	page 9
	7	page 13
	13	page 23
	18	page 28
	22	page 60

2. The Traffic Control Plan

It is recommended that in addition to the policies stated in Section IV, of this report, the Pedestrian Circulation Plan (Map 2) and the Vehicular Traffic Control Plan (Map 3) be approved.

Specifically it is recommended that the following policy be implemented beginning September 1, 1965.

Policy 9 page 16.

It is further recommended that the Administration advise the City of Madison of its circulation policies and request an early consideration of the suggestions made in Policies No. 10, 11, and 12, on pages 18, 19, and 20.

3. The Parking Plan

It is recommended that in addition to the parking policies in Section V, of this report, the Parking Policies Plan (Map 4) be adopted.

With respect to visitor and business vehicle parking, it is recommended that immediate steps be undertaken to implement Policy No. 20, and that Policy No. 21 be effectuated as of September 1, 1965.

It is also recommended that the student parking Policies Nos. 23-26 become effective at the beginning of the academic year 1965-1966, and thattt negotiations with the city be initiated to implement the recommendations of Policy No. 27.

4. Financing of the Plan

The underlying philosophy of this report stresses that the automobile owner and driver should bare the cost of the needed facilities. For this reason it is impossible to isolate one of the problems created by the automobile from another. The total must be discussed and evaluated as a comprehensive system in which one activity may finance another as long as both are part of the system. On the Madison campus, bus service and faculty and staff parking have been a connected system. On the other hand, such operations as Residence Halls parking, Hospital parking, and traffic control have been separate entities.

To coordinate all these various aspects affecting circulation and parking and to provide a more equitable way of financing them, it is recommended that:

a. Control over circulation and parking be centralized in the Division of Physical Plant;

b. The Campus Planning Committee be the body supervising implementation of the policies in this report;

c. A permanent technical circulation and parking committee be established to advise the Campus Planning Committee in these matters;

d. A general revolving circulation and parking fund be established for financing certain aspects of the implementation of this program for which funds would otherwise be difficult to obtain.

TABLE XVI

PARKING CAPACITY AND FUTURE DEMAND (POLICY NO. 19) BY CONTROL ZONES

	Spaces 1963-1963	To Be Removed By 1967 (Estimate)	Present Spaces Remaining In 1967	Additional Needed By 1967	Total In 1967	To Be Removed By 1975 (Estimate)	Additional Needed By 1975	Total In 1975
1. Access Control Zone	599	364	235	0	235	0	0	235
2. Limited Parking Zone	1,522	522	1,000	435	1,435	135	0	1,300
3. Outer Parking Zone	1,607	107	1,500	2,330	3,830	0	3,860	7,690
4. Lot 60	1,390	0	1,390	810	2,200	0	0	2,200
TOTAL	5,118	993	4,125	3,575	7,700	135	3,860	11,425

TABLE XVII

ECONOMIC ASPECTS OF CAMPUS PARKING AT SELECTED UNIVERSITIES

		Operating Statistics			
	Approximate Range of Parking Fees	Annual Income	Maintenance and Operating	Annual Surplus Deficet	Financing
U. of Wisc.	$12 - 36 per yr.	$175,410	$105,888	$ 69,522	Parking Permit Fees
U. of Illinois (Proposed)	$32 - 75 per yr.	415,735	-----	-----	Bond Issues
U. of Mich.	$25 per year to .25 per day	155,858	30,404	125,454	Parking Receipts
U. of Minn.	$110 per year to .15 per day	588,109	450,775	137,334	Parking Receipts
Ohio State U.	$ 4 - 10 per yr.	146,288	131,714	14,574	Parking Receipts
U. of Cal. at Los Angeles	$50 per year to 22 per semester plus .50 per day	700,599	268,491	432,108	Regent Loan and FHA Financing
U. of Penn.	$50 per year	250,000	100,000	150,000	Parking Receipts
U. of Wash.	$40 per year to .50 per day	200,000	160,000	40,000	Parking Receipts

Sources:

Parking Programs for Universities, a report prepared by the University Facilit

Research Center with the Educational Facilities Research Laboratories, Inc. (Madison: 1962) P. 26.

The overwhelming financial problem is that of providing faculty and staff parking. As can be seen from Table XVI by 1967, 3575 new spaces must be provided. Of this total, only 810 spaces can be obtained by expanding Parking Area 60 without overtaxing the bus systems capacity during peak hours. Therefore, the greater share of parking must be provided elsewhere. Consistent with the Sketch Plan, it is recommended that these additional 2765 spaces be located in the Campus Expansion Area. Although spaces is extremely limited in the Expansion Area, it is possible to provide the required parking spaces until 1967. After that date it will be necessary to construct multi-deck facilities in order to meet the anticipated demands for 1975. As can be seen from Table XVI, 11425 spaces will be needed in 1975 as compared to a total of 7700 spaces in 1967. To meet this demand through ramp construction, a subsidized parking system will be required. 27

However, the parking facilities required until 1967 can be provided without a subsidy through a revision in fee schedules. It is proposed that the new fee schedule to go into effect in September 1964. These fees should be $72 per annum in zones 1 and 2; $60 per annum in zone; and $48 per annum in zone 4 (Lot 60). These figures, while substantially higher than those now in effect, compare quite favorably with those prevailing in other large urban universities. For example, the University of Minnesota currently charges up to $110 per year. Table XVII shows prevailing rates at selected major urban universities.

The following financial plan is based on the fee schedule proposed above and provides adequate revenues to finance the additional spaces required until 1967.

Financial Plan Through 1967

Land		$1,320,000.
This figure is based on the assessed value of the land times 2½.		
Improvements		3,163,500.
This figure is based on:		
a. $150 per parking space for 2390 surface spaces.	$358,500.	
b. $2,000 per parking space for 750 above ground ramp spaces.	$1,500,000.	
c. $3,000 per parking space for 435 under ground ramp spaces.	$1,305,000.	
TOTAL COST OF LAND PLUS IMPROVEMENTS		$4,483,500.

Amortization and Interest Per Annum	$313,850.
Annual demand for amortization and interest on $4,483,500 is at an estimated $70. per $1,000.	
Bus System Subsidy	50,000.
Based on University experience.	
Operation and Maintenance	80,000.
Based on University experience.	
TOTAL COST PER ANNUM	$443,850.
Revenue Per Annum	
Zones 1 + 2 -(1670 cars at $72 per car)	$120,240.
Zones 3 -(3830 cars at $60 per car)	229,800.
Zone 4 -(2200 cars at $48 per car)	105,600.
TOTAL REVENUE PER ANNUM	$455,600.
Surplus Per Annum	$ 11,790.

FOOTNOTES

[1] Cities in the Motor Age, Wilfred Owen, (New York: Viking Press, 1959) p. 176.

[2] Wilbur C. Smith, Access and Parking for Institutions, (Sangatnik: The Eno Foundation for Highway Traffic Control, 1960) 36 pp + tables.

[3] Parking Programs for Universities, a report prepared by the University Facilities Research Center with the Educational Facilities Laboratories, Inc. (Madison: 1961).

[4] This was clearly demonstrated by the student traffic flow studies which the Planning Section undertock in 1958-1959 and which were presented to the Campus Planning Commission in conjunction with the discussions of the site of the new Mathematics building.

[5] A Plan for University Avenue, Madison, Wisconsin, prepared for the City of Madison by Barton-Aschman Associates, (Evanston: September, 1961) 51 pp + maps and charts.

[6] Letter from President Elvehjem to Mayor Nestigen, June 15, 1960.

[7] Report from the Director of Public Works to the Mayor, January 24, 1963.

[8] These are trucks with a wheel base over 18 feet. See the American Association of Highway Officials, A Policy on Geometric Design of Rural Highways, (Washington: 1961) 655 pp and A Policy on Arterial Highways in Urban Areas, (Washington: 1960) 558 pp.

[9] "Lessons from America: Roads and Traffic" by Wilfred Burns, Journal of the Town Planning Institute, Vol. XLVIII, No. 7, (London: July - August 1962).

[10] Long-Range Parking Plan for the University of Illinois, Harland Bartholomew and Associates (Memphis: December, 1962) 22 pp.

[11] This does not mean that the demand for permits to certain areas did not exceed the number of available spaces. The analysis compares total demand with total supply.

12 Bartholowmew, p. 6.

13 A 1000 foot distance is generally considered the maximum service radius for parking at cultural and entertainment facilities.

14 Report on the Feasibility of the Proposed University Hospitals Parking Facility, Madison, Wisconsin, De Leuw, Cather and Co. Consulting Engineers (Chicago: 1962) 20 pp. + tables and exhibits.

15 Ibid, p. 17.

16 Survey of Parking Habits and Attitudes of Union Theatre Audiences, conducted by the Wisconsin Union (June, 1950) 20 pp. Survey of the Use of Parking Area No. 1, Division of Physical Plant (December, 1959) 4 pp. University of Wisconsin Visitor's Information Booth reports, August - October 1961. Wisconsin Union-Typical Comments Received at the Information Booth, January - October, 1961.

17 Letter from the Director of the Union to the Institutional Planner (June 14, 1961).

18 Letter from City Traffic Engineer to Vice President Peterson on April 26, 1961.

19 Student Housing at the University of Wisconsin, A report of the Subcommittee on Living Conditions and Hygiene (Madison: 1962) 24 pp. + tables.

20 Ibid, p. 3.

21 Ibid, p. 4.

22 Sketch Plan, Appendix 6.

23 Verbal communication from Division of Residence Halls to Institutional Planner, September 27, 1961.

24 Annual Report, 1956-57, U. W. Department of Protection and Security.

[25] Student Expenses and Source of Income, 1960-61 Academic Year, by L. J. Lins, Office of Institutional Studies, the University of Wisconsin, Madison, October, 1961.

[26] In 1956-67 Madison cars accounted for 24.6% of the total registration, although Madison students represented only 19.2% of the total student population. The rest of Wisconsin accounted for 64% of all cars and 58.5% of all students; out-of-state and foreign 11.4% of cars and 22.3% of students. (Table XIII and Annual Report of the Department of Protection and Security).

[27] Section U. W. 1.05 Traffic Regulations, paragraph (7) of Chapter U. W. 1, Traffic and Conduct on University Property, State of Wisconsin Register, (Madison: 1957) No. 24.